

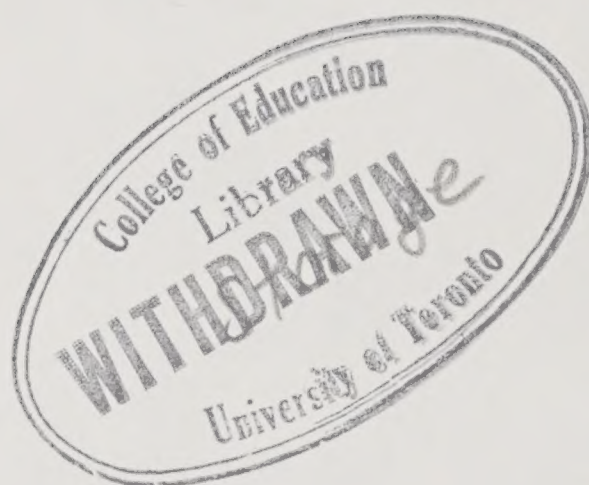
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HIGH SCHOOL ENTRANCE.

COMPOSITION.

Values

50

1. Write a composition of about thirty lines on not more than *one* of the following subjects:—

(a) "One Flag, One Fleet, One Throne."

(b) Autumn Woods.

(c) A June Day.

(d) A Day Spent at a Friend's.

(e) The story of Braddock's Defeat.

(f) A Butterfly's Story of its Own Life.

20

2. A school debate is to be held on the subject:—
"Resolved that Canada has greater natural advantages than the United States for the making of a great nation."

Give an outline of the arguments by which you would support either the affirmative or the negative side of the debate.

12

3. Write the following extract, arranging it in paragraphs and inserting all punctuation marks, capitals, etc., that you think necessary:—

Is your master at home my dear said scrooge to the girl.
Yes sir. where is he my love said scrooge. he's in the dining-room along with the mistress I'll show you upstairs if you please thank'ee He knows me said Scrooge with his hand already on the lock I'll go in here my dear.

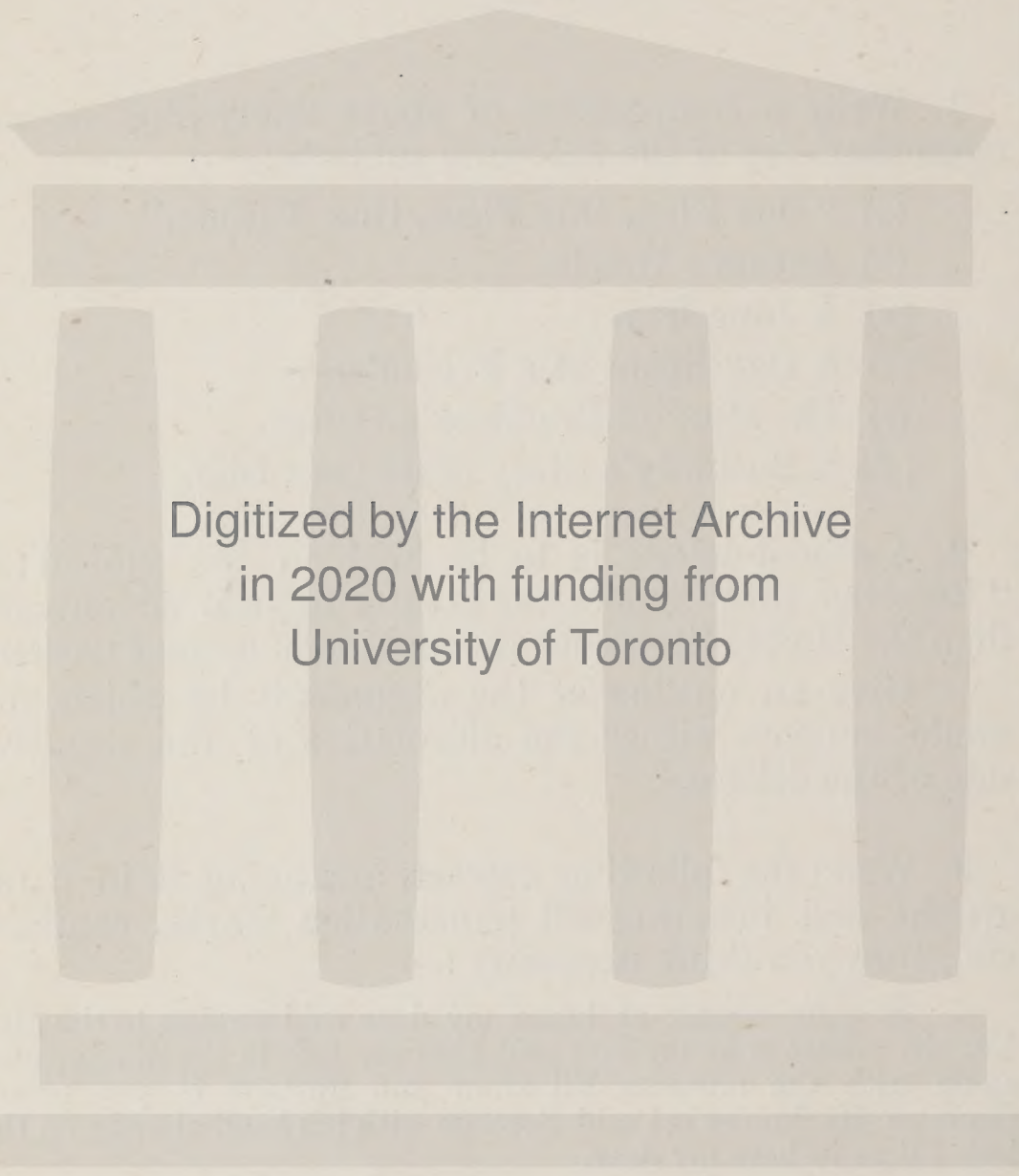
10

4. (a) Write a letter to your bookseller enclosing a bank draft (to cover the cost of books and 50 cents for express) and requesting him to forward you by express the following books:—1 doz. Fourth Books, \$1.92; 1 doz. Spelling Books, \$1.80; 2 doz. Copy Books, 48c.; 1 doz. Blank Drawing Books, 60c.

5+3

=8

(b) Write in a ruled space (i) the bank draft, (ii) the envelope address.



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HIGH SCHOOL ENTRANCE.

SPELLING.

NOTE TO PRESIDING OFFICER.—Treat each sentence as follows :—(a) Read it aloud distinctly, to give the candidates the thought ; (b) read it again slowly for dictation, TAKING GREAT CARE TO MAKE EVERY CANDIDATE UNDERSTAND YOU ; (c) read it a third time for corrections.

(*Two marks off for each error.*)

A.—(*Value 25.*)

The winter climate of Ottawa is severe, but bracing. The well-to-do element being large in the population of nearly seventy thousand, the country roads, running like white ribbons through the pervading green of the spruce and firwoods, are musical with the tinkle of sleigh bells on Saturday afternoons and Sundays ; and the almost noiseless rush of swift trotting horses bearing their fur-clad drivers over the smooth-beaten snow is continually in the ear should you be taking your walks abroad. For the politician, the business man, or the gentleman of leisure, of which there are quite a few in Ottawa, the winter climate, cold as it is—a trifle more so than Montreal—has much to recommend it. It is generally of that bright and exhilarating frigidity which the stranger believes to be the prevailing winter characteristic of all His Majesty's Canadian dominions when, that is to say, he does not believe it to continue for most of the year.

B.—(*Value 25.*)

We ought sometimes to suspend our judgment.
He heard the herdsman hurrying home.
Modest doubt is called the beacon of the wise.
Do not sprinkle flour over the flower pot.
The mayor of the town owns a beautiful mare.
Clear enunciation aids in making reading intelligible.
Eminent men are often placed in imminent danger.
Beware of entrance to a quarrel.
There is not a beech tree near the beach.
I will not recede, on the contrary, I will proceed.
He preferred to act for himself.
The attendants gave poor attendance on that occasion.

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HIGH SCHOOL ENTRANCE.

GEOGRAPHY.

Values

- | | |
|----|---|
| 10 | 1. The degree of longitude varies in length, but the degree of latitude does not. Explain. |
| 10 | 2. (a) Make an outline map of North America as large as the paper will permit and trace on it the several countries comprised therein. |
| 10 | (b) Trace on this map the boundaries of Ontario, and show the position of:—North Bay, London, Peterborough, Pembroke, Cornwall. |
| 10 | (c) Trace on this map the Mississippi River system, including the Ohio, the Missouri, the Arkansas; and the Tennessee. |
| 10 | (d) Name and locate on this map one great commercial centre for each of the following products:—meat, grain, lumber, steel, cotton. |
| 10 | 3. Compare the natural products of Norway and Sweden with those of Italy, and tell why they differ in many respects. |
| 10 | 4. Explain why the rainfall of British Columbia is greater than that of Alberta. |
| 16 | 5. Locate eight of the British possessions in Asia and give in each case the chief reason for its importance to the Empire. |
| 14 | 6. Write an explanatory note on each of the following terms:—trade winds, sea and land breezes, monsoon, gulf stream, isothermal lines, heat belt, Arctic circle. |

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HIGH SCHOOL ENTRANCE.

ARITHMETIC.

Values

A.

NOTE.—*In the case of each of the questions in Part A, [viz.,—1, 2, 3 (a), 3 (b), and 3 (c)], no marks are to be given unless the answer thereto is correct.*

10

1. A dealer sold lumber at the average price of \$35.60 per M feet for one week, as follows:—Monday, 986483 feet; Tuesday, 427817 feet; Wednesday, 780842 feet; Thursday, 897684 feet; Friday, 786889 feet; Saturday, 886785 feet. What were his total receipts from the sales for the week?

11

2. T. Smith, grocer, sold to J. Jones, jobber, the following goods:—

200 lbs. tea at $18\frac{1}{2}$ c. per lb.

42 lbs. raisins at 3 lbs. for 25c.

164 sacks salt at 4 sacks for 15c.

29 lbs. 4 oz. cheese at 16c. per lb.

15 cwt. 75 lbs. flour at \$2.80 per cwt.

48 lbs. 12 oz. lard at 12c. per lb.

If J. Jones pays three-fourths of this bill in goods and the balance in cash, how much cash does he pay?

3×3

=9

3. (a) From $\frac{5}{8} + \frac{4}{5}$ of a pound take $\frac{3}{4} - \frac{2}{3} + \frac{1}{20}$ of a pound.

(b) If $\frac{2}{3}$ of $\frac{4}{5}$ of a yard cost \$1 $\frac{1}{3}$, what will $\frac{6}{7}$ of $\frac{3}{4}$ of $\frac{7}{9}$ of a yard cost?

(c) Simplify
$$\frac{.88 \times .098 - 16 \times .00002}{.000012}.$$

B.

10

4. The pound loaf costs 5c. when wheat is \$1.25 a bushel. What should the 20 oz. loaf cost when the price of wheat has fallen 20c. a bushel? [OVER]

Values

8 + 4

= 12

5. (a) A room is 36 feet long and 27 feet wide. On the floor is a rug which leaves uncovered a border 18 inches wide all round the room. What will it cost to paint the border two coats at 13c. a square yard for each coat?

(b) What will the rug cost at \$2.00 a square yard?

12

6. The side of a square field is 208 feet. Corn is planted in the field in hills 4 feet apart each way and 4 feet from the fence all round. With three good ears to the hill, except one hill which failed to grow, and 100 ears to the bushel, what is the corn worth at 30c. a bushel?

12

7. A drover bought a carload of 17 horses in Markdale at an average price of \$160 each. He shipped them to Montreal paying, freight \$36, feed and care \$9, insurance \$27. He sold 8 of them at a gain of 40%, and the remainder at a loss of $7\frac{1}{2}\%$ of their cost in Markdale. Find his total gain on the carload.

12

8. A man borrowed \$320 on May 16th, 1909. What sum was required to cancel the debt on March 4th, 1910, if he paid interest at the rate of $5\frac{1}{2}\%$?

12

9. A man owns one-fifth of a ship worth \$57,000, which is insured at 90% of its actual value. How much would he lose in case of the loss of the ship if the total premium paid for insurance was \$515?

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HIGH SCHOOL ENTRANCE.

READING.

(EXAMINATION PAPER.)

Values

A.

NOTE.—*Tom Sawyer spends a night in the woods.*

When Tom awoke next morning he wondered where he was. He sat up and rubbed his eyes and looked around ; then he comprehended. It was the cool, grey dawn, and there was a delicious sense of repose and peace in the dim pervading calm
5 and silence of the woods. Not a leaf stirred, not a sound obtruded upon Nature's meditation. Beaded dewdrops stood upon the leaves and grasses. A white layer of ashes covered the fire, and a thin blue wreath of smoke rose straight into the air. Now, far away in the woods a bird called ; another
10 answered ; presently the hammering of a woodpecker was heard. Gradually the cool, dim grey of the morning whitened, and as gradually sounds multiplied and life manifested itself. The marvel of Nature shaking off sleep and going to work manifested itself to the musing boy.

2 1. (a) What does this paragraph describe ?

2 (b) Which sentence most clearly states the subject of the paragraph ?

2+2 (c) Select from the description and arrange in
+3=7 separate groups, (i) what Tom sees, (ii) what he hears, (iii) his feelings.

1×8 2. State clearly the meaning of the following expres-
=8 sions :— “comprehended” (line 3) ; “delicious sense of repose and peace” (line 4) : “pervading” (line 4) ; “obtruded” (line 6) ; “the cool, dim grey of the morning whitened” (line 11) ; “sounds multiplied” (line 12) ; “life manifested itself” (line 12) ; “marvel” (line 13).

2 3. (a) Why is “Nature” (line 13) printed with a capital letter ?

3 (b) What word besides “sleep” (line 13) is used in the passage to describe Nature's condition ? Explain it.

[OVER]

There came a message to the vine,
 A whisper to the tree;
 The bluebird saw the secret sign
 And merrily sang he !
 5 And like a silver string the brook
 Trembled with music sweet—
 Enchanting notes in every nook
 For echo to repeat.

A magic touch transformed the fields,
 10 Greener each hour they grew,
 Until they shone like burnished shields
 All jewelled o'er with dew.
 Scattered upon the forest floor,
 A million bits of bloom
 15 Breathed fragrance forth thro' morning's door
 Into the day's bright room.

Then inch by inch the vine confessed
 The secret it had heard,
 And in the leaves the azure breast
 20 Sang the delightful word :
 Glad flowers upsprang amid the grass
 And flung their banners gay,
 And suddenly it came to pass—
 God's miracle of May !

- 3 4. (a) State in a phrase the subject of this poem.
 4 (b) Explain how line 24 is connected with the
 subject of the poem.

- 1 × 8 5. Explain clearly the following expressions :—
 = 8 “trembled with music sweet” (line 6); “for echo to
 repeat” (line 8); “transformed” (line 9); “burnished”
 (line 11); “bits of bloom” (line 14); “breathed fra-
 grance” (line 15); “azure breast” (line 19); “miracle”
 (line 24).

- 10 6. Write in simple language the substance of the
 poem, showing in the order given in the poem the differ-
 ent events that took place before “the Miracle of May”
 came to pass.

C.

- 12 7. Quote *any one* of the following selections :—
 (a) “The Harp That Once Through Tara's Halls.”
 (b) The first two stanzas of “The Private of the
 Buffs.”
 (c) “The Four-Leaved Shamrock.”
 (d) The first *sixteen* lines of “A Day in June.”

NOTE :—*Red Island, Meccatina, and the other places referred to in this poem are situated in the Gulf of St. Lawrence along the North Atlantic seaboard.*

- Hurrah ! the seaward breezes
 Sweep down the bay amain ;
 Heave up, my lads, the anchor !
 Run up the sail again !
 5 Leave to the lubber landsmen
 The rail-car and the steed ;
 The stars of heaven shall guide us,
 The breath of heaven shall speed.
- Hurrah ! for the Red Island,
 10 With the white cross on its crown !
 Hurrah ! for Meccatina,
 And its mountains bare and brown !
 Now, brothers, for the icebergs
 Of frozen Labrador,
 15 Floating spectral in the moonshine,
 Along the low, black shore !
- Though the mist upon our jackets
 In the bitter air congeals,
 And our lines wind stiff and slowly
 20 From off the frozen reels ;
 Though the fog be dark around us,
 And the storm blow high and loud,
 We will whistle down the wild wind,
 And laugh beneath the cloud !
- 25 Hurrah ! hurrah ! the west wind
 Comes freshening down the bay,
 The rising sails are filling,—
 Give way, my lads, give way !
 In the darkness as in daylight,
 30 On the waters as on land,
 God's eye is looking on us,
 And beneath us is His hand !

3 8. (a) Who are meant by "my lads" (line 3)?

4 (b) State, in a short sentence or two, what they are being urged to do?

1 × 14 9. Explain fully the meaning of the following words
 = 14 and phrases as used in the poem :—"seaward breezes" (line 1) ; "amain" (line 2) ; "run up the sail" (line 4) ; "lubber" (line 5) ; "the breath of heaven shall speed" (line 8) ; "spectral" (line 15) ; "bitter air" (line 18) ; "congeals" (line 18) ; "reels" (line 20) ; "whistle down the wild wind" (line 23) ; "freshening" (line 26) ; "the rising sails are filling" (line 27) ; "give way" (line 28) ; "beneath us is His hand" (line 32). [OVER]

Values

- | | |
|----|--|
| 8 | 10. (a) Describe in your own words the actual scene before the eyes of the speaker. |
| 10 | . (b) Describe in your own words and in the order given in the poem the scenes called up before the minds of the sailors in lines 7 to 24. |

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HIGH SCHOOL ENTRANCE.

ENGLISH GRAMMAR.

Values

1. In a long ramble of the kind on a fine autumnal day Rip had unconsciously scrambled to one of the highest parts of the Kaatskill mountains.
- 6 (a) Analyse fully the above sentence.
- 6 (b) Select the adjectival and adverbial phrases, and tell the word that each modifies.
- $2 \times 2 +$
 $2 \times 5 =$
14 2. Select the clauses in the following sentences and state the kind and explain the relation of each :—
- (a) His proposal was that I should go.
- (b) As we drew near the city we observed that it had no walls, and that a single parapet of earth was the only work which formed the outer enclosure.
- 1×11
 $= 11$ 3. Write the plural forms of the following words :— spoonful, trout, solo, echo, duty, skiff, shelf, crisis, t, Miss Brown, oasis.
- 1×6
 $= 6$ 4. (a) Write the possessive forms, singular and plural, of the following words :— boy, brother-in-law, man, witness, she, I.
- 2 (b) What is meant by the principal parts of a verb?
- 1×10
 $= 10$ (c) Write the principal parts of the following verbs :—come, bid, lie, swim, buy, go, be, eat, set, spin.
- 1×6
 $= 6$ 5. Write short sentences, using each of the following verbs first transitively and then intransitively :—wear, blew, paid.

[OVER]

Values

10

6. (a) Parse in full each word in the following sentence :—

The wind shifting suddenly, we set sail for Ireland's isle.

1×7

= 7

(b) In the case of each of the italicised words in the following sentences, name the part of speech and explain its relation :—

(i) *This* is my brother's *book* and he wishes *to keep* it clean.

(ii) He told me *himself* *that* he *had finished* his work.

(iii) He is fond of *studying* history.

2×6

= 12

7. Write the following sentences, using the word in parenthesis which you consider correct, and give your reasons for your choice :—

(a) The man sold five (ton, tons) of hay.

(b) "Eight Bells" (was, were) struck.

(c) When (shall, will) we see you again?

(d) He is a better writer than (me, I).

(e) I know the man (who, whom) you met last evening.

(f) The machinery works (good, well).

2×5

= 10

8. Write the following forms of the verb *drive* :—

(a) First person, plural, present, indicative, passive.

(b) Third person, singular, future perfect, indicative, active.

(c) Third person, plural, present emphatic, indicative, active.

(d) Third person, singular, past perfect, indicative, passive.

(e) Imperfect participle.

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HIGH SCHOOL ENTRANCE.

WRITING.

Values	NOTE:— <i>In marking this paper special attention should be paid to correctness of letter formation, slant and connections, and to freedom of movement.</i>
18	1. Write:— Some say “to-morrow” never comes, A saying oft thought right; But if “to-morrow” never came, No end were of to-night. The fact is this, time flies so fast, That ere we’ve time to say “To-morrow’s come”, presto! behold! “To-morrow” proves “to-day”.
16	2. Write:— The distance by rail from Winnipeg to Brandon is 133 miles west, to Virden 180 miles west, to Regina 357 miles west, to Calgary 840 miles west, to Vancouver 1482 miles west, to Toronto 1193 miles east, and to Montreal 1424 miles east.
5	3. State clearly the proper position, to secure legible, rapid writing, of:— (a) The forearm and the hand in writing; (b) The body and paper in relation to the desk.
5	4. Write two lines each of the following combinations used as continuous movement exercises. Make each at least twice the ordinary height:— (a) The capitals DE. (b) The small letters fs.
6	5. Write the following, showing clearly the proper slant and the proper connection of the letters in each word:— (a) Onion, young, right, pigmy, pippin. (b) Hurrah, kinked, hundredth, hahaha. (c) You must practise well to succeed well.

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HIGH SCHOOL ENTRANCE.

READING.

(ORAL.)

In the examination in reading, the examiners will use one or more of the following passages, paying special attention to pronunciation, emphasis, inflection, and pause. They should also satisfy themselves that the candidate reads intelligently as well as intelligibly. Twenty lines, at least, should be read by each candidate.

Candidates may elect to read from either the Ontario Readers or the Canadian Catholic Readers.

(Value=50.)

SELECTIONS.

Ontario Readers:—

The Archery Contest (p. 97).
Ye Mariners of England (p. 154).
Fitz-James and Roderick Dhu (p. 270).
Balaklava (p. 316).

Canadian Catholic Readers:—

Maggie Tulliver Visits the Gypsies (p. 39).
The Forest Fire (p. 76).
Rip Van Winkle (p. 233).
A Day in June (p. 305).

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ENTRANCE INTO THE MODEL SCHOOLS.

ELEMENTARY SCIENCE.

1. (a) Explain the function of (i) the root, (ii) the stem, and (iii) the leaf of a plant.

(b) What preparation takes place for the period of rest in these organs in any *four* of the following plants:—the maple, the pine, the burdock, the cabbage, the onion, Jack-in-the-pulpit, and the parsnip?

2. Describe how any *four* of the following animals are fitted for their environment:—deer, muskrat, owl, earthworm, frog, bat, pike, butterfly, spider, hare.

3. How are the organs of any *four* of the following animals specially adapted for the functions of (a) food getting, (b) self defence:—cat, rabbit, hawk, robin, bob-o-link, ruffed grouse, mole, mosquito, deer, fox, toad, hen.

4. (a) Explain and illustrate by a diagram the three kinds of levers. Give an example of the practical application of each kind.

(b) Give a simple application of the pulley and state the advantage of using it.

5. Explain the principle of any *two* of the following:—the siphon, the common pump, the mercurial thermometer, the mariner's compass.

6. Describe experiments to prove that oxygen and carbon dioxide are contained in air. What is the use of each in the economy of nature?

7. (a) What change takes place in limestone when heated strongly for several hours?

(b) Explain the economic uses of the different forms of limestone.

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ENTRANCE INTO THE MODEL SCHOOLS.

ALGEBRA AND GEOMETRY.

A.

1. Simplify:—

(a) $(a+b+c)^2 + (a-b)^2 + (b-c)^2 + (c-a)^2.$

(b)
$$\frac{\frac{a+b}{a-b} - \frac{a-b}{a+b}}{1 - \frac{a^2+b^2}{(a+b)^2}}.$$

2. Factor:—

(a) $2ax^2 + 3axy - 2bxy - 3by^2.$

(b) $a^3 - 27b^3.$

3. Find the H.C.F. of

$$x^3 + 2x^2 - 8x - 16 \text{ and } x^3 + 3x^2 - 8x - 24.$$

4. Solve:—

(a)
$$\frac{7}{x-4} - \frac{12}{x-6} = \frac{3\frac{1}{2}}{x-4} - \frac{8}{x-6}.$$

(b)
$$\begin{aligned} 7x - 3 &= 5y, \\ 7y - 3 &= 8x. \end{aligned}$$

5. A has \$100, and B has \$40. A spends twice as much money as B, and then has left three times as much as B. How much does each spend?

[OVER]

B.

NOTE.—The following instruments must be used :—(1) a *Ruler* on which are marked inches divided into sixteenths ; (2) a *Pair of Compasses* ; (3) a *Protractor*. All lines and angles must be drawn with exactness.

6. Draw a circle of radius one and a half inches. By means of it illustrate, and name clearly by letters, (*a*) chord, (*b*) arc, (*c*) segment, (*d*) sector, (*e*) tangent.

CONSTRUCTIONS.

7. Using instruments, make the construction required in the following problem. A description of the method of construction is to accompany the drawing, but proof is not demanded :—

Draw a triangle whose base is three and a half inches, and whose angles adjacent to the base are 45° and 105° , respectively.

Measure the sides of the triangle to the nearest eighth of an inch.

8. Make the following construction and prove that it conforms to the requirements of the problem :—

Describe a parallelogram equal to a given triangle and having one of its angles equal to a given angle.

THEOREMS.

9. If two sides and the included angle of one triangle be equal to two sides and the included angle of another triangle, the triangles are equal in every respect.

10. ABC is an isosceles triangle having AB equal to AC . An equilateral triangle BDC is described on BC . Prove that AD or AD produced bisects BC .

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ENTRANCE INTO THE MODEL SCHOOLS.

ENGLISH COMPOSITION.

NOTE NO. 1.—*The candidate must not use in his composition any name which would indicate his examination centre.*

NOTE NO. 2.—*He is also reminded that his marks in writing will be judged from his Composition answer-paper.*

1. Wanted, for S. S. No. 11, Oka, a legally qualified teacher. Initial salary \$450 to \$500, according to qualifications and experience. Peter White, Sec.-Treas., Newby.

In answer to the above, supposed to have appeared in "The Daily Trumpeter" of June 10th, 1910, write an application, dating your letter from Toronto and signing it A. B.

2. Write a composition on any *one* of the following topics:—

(a) Canada and the Twentieth Century.

(b) A Nature-Study Ramble.

(c) The Castaway and His Island.

(Based on the story of Enoch Arden.)

(d) "On God and Godlike men we build our trust."

(e) Recent Polar Explorations.

(f) Aerial Navigation.

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ENTRANCE INTO THE MODEL SCHOOLS.

BOOK-KEEPING AND BUSINESS PAPERS.

Poplarville, Jan. 3, 1910. John Logan commenced business, investing as follows:—

Cash \$1500. James Wilson owes him \$50 for which he holds a note due Jan. 31st. William Snowdon holds a note against him for \$75.

Jan. 3. Deposited in the Bank of Toronto \$1000. Bought from McRae & Co., 20 chests tea, 40 lbs. net each, at 30c. per lb., and paid him by a cheque on the bank.

Jan. 4. Sold Thomas Banks for cash, 2 chests tea, 40 lbs. net each, at 40c. per lb.

Jan. 5. Bought for cash from John Bush, 7 sacks sugar, 100 lbs. net each, at $4\frac{1}{2}$ c. per lb.

Jan. 6. Sold Arthur Seeley on account, 4 chests tea, 160 lbs. net at 40c. per lb.

Jan. 7. Sold Henry Bickell on his note at 30 days, 1 sack sugar, 100 lbs. net at $5\frac{1}{2}$ c. per lb.

Jan. 8. Paid cash \$12.50 for 2 tons coal for store. Withdrew for private use \$25 cash.

Jan. 11. Paid William Snowdon his note \$75 and interest \$1.50.

Jan. 12. Arthur Seeley paid \$40 on account.

Jan. 13. James Wilson prepaid his note of \$50, with \$1 interest.

Jan. 14. Paid rent of store for one month \$50, by cheque on the bank.

Inventories.—14 chests tea, 40 lbs. net each, at 30c. per lb.
6 sacks sugar, 100 lbs. each, at $4\frac{1}{2}$ c. per lb. Coal \$8.

1. Journalize the above transactions.
2. Transfer these accounts to the ledger, and close the ledger.
3. Make out a statement of losses and gains.
4. Make out a statement of resources and liabilities.
5. Write the note mentioned in the transaction of Jan. 7th.
6. Write the cheque in the transaction of Jan. 3rd.

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ENTRANCE INTO THE MODEL SCHOOLS.

GEOGRAPHY.

1. Give an account of (a) the origin of the different kinds of rocks, (b) the various agencies at work in the erosion of rocks.

2. (a) Write concise notes on glaciers under the following heads:—(i) origin, (ii) movement, (iii) effects, (iv) location of present day glaciers.

(b) What evidence is there of glacial action in North Eastern America?

3. Account for the origin of (a) mountains, (b) lakes.

4. Account for the variation in the length of the day in this latitude.

5. Draw a map of the three eastern maritime provinces of the Dominion of Canada, marking:—

(a) Coast waters;

(b) Principal rivers;

(c) The chief seaports and industrial centres.

6. Compare the provinces of Quebec and British Columbia as to:—

(a) Climate;

(b) Kind and volume of products;

(c) People;

(d) Future possibilities.

7. Describe the transcontinental railways of Canada already constructed or under construction, giving routes and stating the value of these railways to Canada.

8. Name the countries in which the following articles are produced in large quantities, giving *three* countries for each product:—cotton, coal, wheat, raw silk, coffee, sugar.

9. Show the relation between the natural resources and the industries of any *two* of the following countries:—Great Britain, United States, Germany, France.

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ENTRANCE INTO THE MODEL SCHOOLS.

ARITHMETIC AND MENSURATION.

1. (a) A rectangular box, 40 centimetres long, 30 centimetres wide, and 20 centimetres deep, inside dimensions, is filled with water. What is (i) the weight of the water in kilogrammes, and (ii) the volume of the water in litres?

(b) What fraction of $\frac{2}{3}$ of a ton is

$$\frac{13\frac{2}{3} \div 1\frac{1}{2}}{1 - \frac{\frac{2}{3} \text{ of } \frac{4}{5}}{6}} \text{ of } \frac{1}{2} \text{ a cwt. ?}$$

2. A grocer bought 80 lbs. of tea at 25c. a lb., 100 lbs. at 30c. a lb., and 120 lbs. at 35c. a lb. He sold one-half of the first at a loss of 20%, and one-half of the second at a gain of 20%. He mixed all that he had left. At what price per pound must he sell the mixture in order to gain 25% on the whole transaction?

3. I built a house for \$3600 on a lot that cost me \$1200. I insured the house for $\frac{7}{9}$ of its value at $\frac{3}{5}\%$. The house was destroyed by fire, and I sold the lot at an advance of 55%. Find my total gain or loss.

4. A bought a house for \$1350 and, after spending \$27.60 in repairs, sold it to B for \$1600 taking his note payable in 70 days for the amount. A had the note discounted at a bank at 8%. What per cent. profit did he make?

5. A man had \$8000 bank stock which paid dividends of 8%. He sold out at 155 and invested the proceeds in railroad stock at 62 paying $3\frac{1}{2}\%$ dividends. Find the change in his income.

6. How deep should a cylindrical cistern 7 feet in diameter be to hold 1925 gallons of water? (1 cu. ft. = $6\frac{1}{4}$ gallons, and $\pi = \frac{22}{7}$.)

7. ABCD is a quadrilateral field. AB is 10 rods, BC is 24 rods, CD is 30 rods, and AD is 28 rods. The angle ABC is a right angle. How many acres are in the field?

8. The diameter of a cone at its base is 14 inches, and its height is 18 inches. Find (i) its volume in cubic inches, and (ii) the area of its curved surface in square inches. ($\pi = \frac{22}{7}$.)

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ENTRANCE INTO THE MODEL SCHOOLS.

SPELLING.

NOTE.—The Presiding Officer shall read section A three times—the first time to enable the candidate to grasp the sense; the second, slowly, to enable the candidate to write the words; the third, for review. For section B only two readings are required—the first, for writing; the second, for review.

A.

1. When the white wreaths were scattered a wretched spectacle was disclosed: battalions resolved into a mob, order and obedience gone; and when the muskets were levelled for a second volley, the masses of the militia were seen to cower and shrink with uncontrollable panic.

2. Becoming separated from the rest, they pursued a Spanish galleon literally ballasted with bullion.

3. Another vessel crossed him freighted with porcelain, emeralds, and a golden falcon.

4. He returned accompanied by his amiable partner with a look of portentous import and a fearful instrument of flagellation, strong, supple, and new.

5. The ordinary British line two deep is sufficient to repel the attack of those Muscovite cavaliers.

6. The cockpit was crowded with wounded and dying men, over whose bodies he was with difficulty conveyed, and laid upon a pallet in the midshipmen's berth. The wound was perceived to be fatal; but this was concealed from all but the chaplain and medical attendants.

B.

civilian	metallic	existence	hemorrhage	aquiline
phaeton	eligible	apparelled	facetiously	gazetteer
obligatory	crystallize	attachment	subpoena	inaccessible
embarrassed	colossal	obeisance	intercede	rivetted
faucet	allowance	palisade	seceded	unskilful

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ENTRANCE INTO THE MODEL SCHOOLS.

ENGLISH LITERATURE.

1. Quote any *one* of the Interlude Songs from *The Princess*.

2. (a) Write briefly the story of Enoch Arden, justifying from the poem the description of Enoch as “a strong, heroic soul.”

(b) Sketch in a few lines the character of Philip.

3. (1) Katie never ran : she moved
To meet me, winding under woodbine bowers
A little fluttered, with her eyelids down,
Fresh apple-blossom, blushing for a boon.

(2) O Katie, what I suffered for your sake !

(a) From what poem are these extracts taken ?

(b) What is the theme of the poem ?

(c) What connection has the incident above referred to with the main thought of the poem ?

(d) Write in simple prose the meaning of extract (1).

(e) Who is the speaker in the above extracts ? State concisely what he had suffered.

4. Give the meaning of each of the following extracts, tell from what poem each is taken, and state the main thought of each poem :—

(a) We all are changed by still degrees,
All but the basis of the soul.

(b) O fall'n at length that tower of strength
Which stood four-square to all the winds that blew !

(c) whose language rife
With rugged maxims hewn from life.

[OVER]

5. Not once or twice in our rough island-story,
The path of duty was the way to glory :
He that walks it, only thirsting
For the right, and learns to deaden
Love of self, before his journey closes,
He shall find the stubborn thistle bursting
Into glossy purples, which outreden
All voluptuous garden-roses.

(a) Give *three* instances of the truth stated in the first two lines.

(b) Render in prose the last six lines.

6. Above the pines the moon was slowly drifting,
The river sang below ;
The dim Sierras, far beyond, uplifting
Their minarets of snow.
- 5 The roaring camp-fire, with rude humour, painted
The ruddy tints of health
On haggard face and form that drooped and fainted
In the fierce race for wealth ;
- 10 Till one arose, and from his pack's scant treasure
A hoarded volume drew,
And cards were dropped from hands of listless leisure
To hear the tale anew ;
- And then, while round them shadows gathered faster,
And as the firelight fell,
- 15 He read aloud the book wherein the Master
Had writ of " Little Nell."
- Perhaps 'twas boyish fancy,—for the reader
Was youngest of them all,—
But, as he read, from clustering pine and cedar
- 20 A silence seemed to fall ;
- The fir-trees, gathering closer in the shadows,
Listened in every spray,
While the whole camp, with " Nell " on English meadows
Wandered, and lost their way.
- 25 And so in mountain solitudes—o'ertaken
As by some spell divine—
Their cares drop from them like the needles shaken
From out the gusty pine.
- Lost is that camp and wasted all its fire :
30 And he who wrought that spell ?—
Ah ! towering pine and stately Kentish spire,
Ye have one tale to tell !
- Lost is that camp, but let its fragrant story
Blend with the breath that thrills
- 35 With hop-vine's incense all the pensive glory
That fills the Kentish hills.
- And on that grave where English oak and holly
And laurel wreaths entwine,
Deem it not all a too presumptuous folly,—
40 This spray of Western pine !

(a) Give the above poem an appropriate title.

(b) Indicate the three natural divisions of the poem and give the subject of each.

7. Give in suitable prose language the picture presented in the first two stanzas.

8. Explain the meaning of:— “hoarded volume” (l. 10); “listless leisure” (l. 11); “clustering pine and cedar” (l. 19); “Listened in every spray” (l. 22); “some spell divine” (l. 26).

9. (a) “the Master” (l. 15). To whom does this refer? “the book” (l. 15). What book?

(b) Give in concise language the meaning of lines 23 and 24.

(c) Show the appropriateness of the simile in stanza 7.

10. Express in concise language:—

(a) The question in line 30;

(b) The meaning of the last stanza.

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ENTRANCE INTO THE MODEL SCHOOLS.

ENGLISH GRAMMAR.

1. When Sir Richard Wallace's pictures were being exhibited at Bethnal Green, after people had said that the workers had no souls for art and would not appreciate its treasures, a story is told of a female in very poor clothes who, as she stood gazing upon a picture of the Infant Jesus in the arms of his mother, was heard to exclaim: "Who would not try to be a good woman, who had such a child as that?"

(a) Divide the extract into its clauses and state their kind and relation.

(b) Write out the prepositional phrases in the extract. State the kind, and explain the relation of each.

2. Analyse any *six* of the following words into root words, prefixes, and suffixes, giving the force of each element:—
parasol, expatriate, immutable, commensurate, description, retentive, consonant, biology, obstacle.

3. Explain clearly the force of the present tense forms as used in the the following sentences:—

(a) A man's dog stands by him in prosperity and in poverty.

(b) Fairfax smites the centre of this insurrection; drives it from post to post, into Maidstone, and tramples it out there.

(c) When the inevitable hour comes may I be found ready to go.

(d) Now fades the glimm'ring landscape on the sight,
And all the air a solemn stillness holds.

(e) He speaks as never man spake.

(f) The paths of glory lead but to the grave.

4. Give the principal parts of *breed*, *bereave*, *bid* (to offer), *dive*, *cleave* (to split); the other gender forms of *abbot*, *belle*, *marchioness*, *sultan*, *bride*; and the plural forms of *colloquy*, *memento*, *genus*, *4*, *cherub*.

[OVER]

5. Name the part of speech and explain the relation of each word in italics in the following sentences: —

- (a) It's *wiser* being good *than* bad ;
It's safer *being* meek than *fierce*.
- (b) Is she not *passing* fair ?
- (c) His *passing* of the ball was not accurate.
- (d) I saw him slowly *passing* down the aisle.
- (e) Oh *that* the desert *were* my *dwelling* place !
- (f) All the children *but* the youngest were present.
- (g) His father taught *him* *agriculture*, made him *overseer* on his estate and paid him five shillings a *day*, a fair *sum*, all *things* considered.
- (h) There is little probability of my *seeing* you again.

6. Distinguish the following :—

- (a) He only wept at the death of his sister.
- (b) He wept only at the death of his sister.
- (c) He wept at the death of his only sister.
- (d) He wept at the death of his sister only.

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ENTRANCE INTO THE MODEL SCHOOLS.

ART.

NOTE.—*All drawings must be strictly freehand. No credit will be given for ruled lines.*

1. Draw in colours from memory any plant, and name it.
2. Draw with pencil in a group to suggest a story, a lemon, a pitcher, a glass, and a knife.

3. (a) Draw in proper colours :—

The Union Jack ;

OR,

An illustration of the following lines :—

Leafless are the trees ; their purple branches
Spread themselves abroad, like reefs of coral,
Rising silent—
In the red sea of the winter sunset.

OR,

- (b) Draw a design for a calendar for the month of June, 1910, using pencil or colours, or both. Insert, in appropriate letters and figures, the month, the year, and the abbreviations for the days of the week.

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HISTORY.

NOTE.—*Answer not more than three questions in each section.
If more than three are answered credit will be given for
only the first three in the answer papers.*

A.

1. Give an account of the “Royal Government”, showing the part taken in it by Laval, Talon, and Frontenac, respectively.

2. Narrate the events which led to the passing of any *two* of the following Acts:—Quebec Act (1774), Constitutional Act (1791), Act of Union (1840), and the British North America Act (1867).

3. Show the part taken in the making of Canada by any *three* of the following:—Guy Carleton (Lord Dorchester), Lord Durham, Poulett Thomson (Lord Sydenham), George Brown, John A. Macdonald, Egerton Ryerson, John Graves Simcoe, Lafontaine, and George E. Cartier.

4. Write short explanatory and historical notes on the following:—

(a) Responsible Government.

(b) Clergy Reserves.

(c) U. E. Loyalists.

B.

5. “Apparent disaster then, as so often in human affairs, concealed a deeper good.”

Show the truth of this quotation by three examples from British or Canadian history.

[OVER]

6. Name, and give the principal provisions of, two of the great bulwarks of the liberty of the British subject, and state under what circumstances each was obtained.

7. Write brief notes on any *three* of the following :—

- (a) The Abolition of Slavery (by Britain) ;
- (b) Catholic Emancipation ;
- (c) Chaucer ;
- (d) Caxton ;
- (e) Captain James Cook.

8. Describe the system of government of Great Britain, explaining as you do so the following terms :—Power of the King, House of Commons, House of Lords, Cabinet, Bill, Act.

Département de l'Éducation, Ontario.

EXAMENS ANNUELS, 1910.

ADMISSION AUX ÉCOLES MODÈLES.

ÉCOLES ANGLO-FRANÇAISES.

GRAMMAIRE FRANÇAISE.

1. Analysez grammaticalement les mots en italique :

“Avec leurs grands sommets, leurs *glaces* éternelles,
Par un *soleil* d'été, *que* les Alpes sont belles !
Tout, dans leurs frais *vallons*, sert à nous enchanter,
La verdure, les eaux, les *bois*, les fleurs nouvelles.
Heureux qui sur ces *bords* peut longtemps s'arrêter !”

2. Expliquez *en détail* les différentes manières d'orthographier les mots :

ci-inclus, demi, nu, feu, mille, vingt, tout, franc de port.

3. “Les temps dérivés sont formés des temps primitifs.”

Expliquez *la formation des temps dérivés* des verbes réguliers actifs des quatre conjugaisons.

4. A la suite de vos développements des remarques ci-jointes, ajoutez des phrases dans lesquelles vous appliquerez les règles que vous aurez citées.

(a) “*Quelque* s'écrit de trois manières.”

(b) “Les adjectifs qui modifient le mot *gens* s'écrivent tantôt au masculin, tantôt au féminin.”

(c) “Le verbe qui a pour sujet un *collectif suivi d'un complément* s'accorde ou avec le collectif ou avec le complément.”

5. Conjuguez chacun des verbes : *acquérir*, *se tenir*, *être vu*, *venir*,

(a) au présent de l'indicatif,

(b) au présent du conditionnel;

(c) au plus-que-parfait du subjonctif.

6. Comment s'accordent les participes passés des différentes sortes de verbes adjectifs, lorsque ces participes sont conjugués avec avoir ou avec être. Donnez des exemples.

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EXAMENS ANNUELS, 1910.

ADMISSION AUX ÉCOLES MODÈLES.

ÉCOLES ANGLO-FRANÇAISES.

COMPOSITION FRANÇAISE.

1. Qu'entendez-vous par : anglicisme, inversion, gallicisme, solécisme, homonyme ? Donnez-en des exemples.

2. Rendez en bon français :

abandonner une poursuite ; un foreman ; la boîte des témoins ; acheter des braquettes ; bloquer un roue ; une graffignure ; colletailler ; une bourrure de selle ; une pochetée ; un article éditorial ; le copiage ; bosser un chapeau ; se laisser griller au soleil ; une canisse à poudre ; un switchman.

3. Transcrivez l'extrait qui suit en remplaçant les mots en italique par leurs synonymes.

“ Très peu de *positions* sociales *demandent*, pour être bien remplies, des *facultés* au-dessus du commun. Dans les emplois ordinaires de la vie, cette *portion* d'intelligence qui *est échue* à la masse du genre humain *suffit parfaitement* quand on *prend* la peine de la cultiver. Les *avantages* brillants sont comme des *pierreries*, qui peuvent plaire aux yeux mais qui ne sont point *indispensables* au bonheur des hommes. Le sens commun peut être *assimilé* à une monnaie courante dont le *besoin* se *manifeste continuellement*, et dans les *circonstances* les plus *communes* de la vie. Les grands esprits ne *considèrent l'estime* des autres que comme une chose *insignifiante*.”

4. (a) Faites le plan complet d'une composition littéraire sur UN des sujets suivants :

- (i) Le déluge.
- (ii) Les deux voyageurs.
- (iii) La marine canadienne.
- (iv) L'aurore.
- (v) Le combat de Dollard.
- (vi) La lutte.
- (vii) Le vieillard.

(b) Ecrivez environ une quarantaine de lignes du développement de votre plan.

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ENTRANCE INTO THE NORMAL SCHOOLS.

ALGEBRA.

1. Divide the product of

$$6a^2 + 7ab - 20b^2 \text{ and } 22a^2 - 73ab - 14b^2 \\ \text{by } 4a^2 - 4ab - 35b^2.$$

2. Simplify:—

$$(a) \quad \frac{x^{\frac{3}{2}} + xy}{xy - y^3} - \frac{\sqrt{x}}{\sqrt{x-y}}.$$

$$(b) \quad \left(\frac{a}{a-b} - \frac{b}{a+b} \right) \cdot \frac{a^3 - b^3}{a^6 + b^6} \cdot \frac{(a-b)^2(a+b)^2 + a^2b^2}{a^4 + a^2b^2 + b^4}.$$

3. Find the square root of:—

$$(a) \quad (2x^2 - x - 3)(x^2 - 4x - 5)(2x^2 - 13x + 15).$$

$$(b) \quad x^3 - 4x^{\frac{5}{2}}y^{\frac{1}{2}} + 10x^2y - 14x^{\frac{3}{2}}y^{\frac{3}{2}} + 13xy^2 - 6x^{\frac{1}{2}}y^{\frac{5}{2}} + y^3.$$

4. Solve:—

$$(a) \quad \frac{15-3x}{x+3} + \frac{22x+8\frac{1}{3}}{4x+5} = 2\frac{3}{4} - \frac{\frac{1}{4}x-15}{x+3}.$$

$$(b) \quad \sqrt{x} + \sqrt{x-4} = \frac{8}{\sqrt{x-4}}.$$

$$(c) \quad \begin{aligned} x+3y &= 5, \\ 3y^2-2x^2 &= 5. \end{aligned}$$

5. If $\frac{a}{b} = \frac{4}{5}$, and $\frac{x}{y} = \frac{3}{7}$, find the value of

$$\frac{4ax-by}{5by-7ax}.$$

6. Find the difference of the roots and the sum of the cubes of the roots of the equation $2x^2 - 3x + 5 = 0$.

[OVER]

7. Two sums of money are together equal to \$1000, and $5\frac{1}{2}$ per cent. of the larger exceeds $6\frac{1}{2}$ per cent. of the smaller by 16 cents. Find the sums.

8. A number consists of two digits; when multiplied by the digit on the left, the product is 188; if the sum of the digits be multiplied by the same digit the product is 44: find the number.

9. Draw a five-inch square and divide it into square half-inches. Using two sides of the square as axes, solve graphically

$$\begin{aligned}x + y &= 8, \\3x + 5y &= 30.\end{aligned}$$

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GEOMETRY.

A.—CONSTRUCTIONS.

(Draw each of the figures accurately, describe the method of construction, but do not give proof.)

1. Draw a line $4\frac{1}{4}$ inches long. Divide it into two parts in the ratio of 2:7. Measure the shorter part, and give the answer in sixteenths of an inch.

2. Draw a regular hexagon each of whose sides is $1\frac{5}{8}$ inches in length.

3. Construct a triangle of which the vertical angle is 50° , the base 8 centimetres, and one side 6 centimetres. Inscribe a circle in the triangle. Measure the remaining angles in degrees, and the third side of the triangle and the radius of the inscribed circle in millimetres.

B.—CONSTRUCTIONS AND PROOFS.

(Draw each of the figures accurately, describe the method of construction, and give proof.)

4. Describe an isosceles triangle, having given the base, 64 millimetres, and the sum of one of the equal sides and the perpendicular from the vertex to the base, 72 millimetres.

5. Draw a tangent to a circle, 30 millimetres in radius, from a point 89 millimetres from the centre.

6. On a given straight line to describe a parallelogram equal to a given triangle, and having an angle equal to a given angle.

[OVER]

C.—THEOREMS.

7. If a straight line be divided into any two parts, the sum of the squares on the parts, together with twice the rectangle contained by the parts, is equal to the square on the whole line.

8. The angle which an arc of a circle subtends at the centre is double the angle which it subtends at any point on the remaining part of the circumference.

9. If two triangles have one angle of one equal to one angle of the other and the sides about these angles proportional, the triangles are similar, the equal angles being opposite corresponding sides.

10. That part of a tangent to a circle intercepted by tangents at the extremities of any diameter is divided at the point of contact so that the radius is a mean proportional between the segments.

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ENTRANCE INTO THE NORMAL SCHOOLS.

ENGLISH COMPOSITION.

NOTE.—*The candidate must not use in his composition any name which would indicate his examination centre.*

Write a composition on *one* of the following subjects:—

1. The Spirit of Ulysses.
2. True Patriotism.
3. A Harvest Scene.
4. Aerial Transit.

OR

Present the arguments for one side only—either the affirmative or the negative — of *one* of the following subjects of debate:—

1. Resolved that Brutus might have prevented the establishment of a monarchy in Rome if he had taken the advice of Cassius.
2. Resolved that the country prepares a young man for success in life better than the city does.

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ENTRANCE INTO THE NORMAL SCHOOLS.

ENGLISH LITERATURE.

1. (a) Trace the development of the action in *Julius Caesar* by giving a suitable title for each of the five acts.

(b) What political circumstances are mentioned in the play that would influence Brutus to consent to Caesar's assassination?

(c) Briefly state the line of argument advanced by Cassius to induce Brutus to enter the conspiracy.

(d) Enumerate the circumstances mentioned in the play that would render the mind of Brutus sensitive to the appearance of the ghost of Caesar at the camp near Sardis.

2. (a) Describe the Lotos-land as it appeared to Ulysses and his crew.

(b) What arguments do the sailors use to be allowed to remain in the land of the Lotos-eaters?

(c) From the same poem, give the Greek conception of the home and employment of the gods and their relation to humanity.

3. Quote *one* of the following:—

(a) The first two stanzas of "The Dying Swan."

(b) "Of old sat Freedom."

(c) "Tears, Idle Tears."

(d) Twenty consecutive lines of Antony's oration over Caesar's death in Act III, Scene 2.

(e) Sixteen lines in which Caesar describes the appearance and character of Cassius.

[OVER]

25 Ah ! no such creed, my soul, for thee,
 As underneath the night's wide bars,
 They speak with love's infinity—
 God's wondrous angels of the stars.

 And something in my heart—some light,
 30 Some splendour, Science cannot weigh—
 Beats round the shores of this dim night,
 The surges of a mightier day.

 Though all the loves of those who loved
 Be vanished into empty air,
 35 Though all the dreams of ages proved
 But wrecks of beautiful despair,

 Though all the dust of those who fought
 Be scattered to the midnight's main,
 No noble life was lived for naught ;
 40 No martyr death was died in vain.

(a) Give a suitable title for the poem.

(b) Divide the poem into its three natural divisions and state the main thought in each of these divisions.

(c) Quote all the lines in which the poet professes to give the circumstances under which the poem was written.

(d) Explain the purpose of the contrast in lines 7 and 8.

(e) Explain fully the meaning of stanzas 4, 5, and 8.

(f) How does the poet account for the confidence expressed in the last two lines ?

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ENTRANCE INTO THE NORMAL SCHOOLS.

PHYSICS.

1. (a) Describe an experiment to illustrate the principle of the mercurial barometer.

(b) Explain how the barometer may be used to forecast weather changes.

2. A block of wood weighing 20 grammes has attached to it a piece of lead; the two together weigh 31.5 grammes when submerged in water. The lead alone weighs 36.5 grammes in water. Find the specific gravity of the wood.

3. (a) Show experimentally upon what the amount of heat radiated by a body in a given time depends.

(b) What is meant by the statement "the latent heat of vaporization of water is 537 calories"? Describe an experiment which will tend to prove this statement.

4. (a) Describe experiments to show how the notes produced by vibrating air columns vary (i) in tubes of different lengths, (ii) in open and closed tubes.

(b) The note given by a closed tube is an octave higher than that given by an open tube of the same bore. Compare the lengths of the tubes.

(c) Explain the principle of resonance, and show how it may be applied to determine the length of the sound-wave produced by a tuning-fork. Having determined the length of the sound-wave, and knowing the vibration-frequency of the fork, how would you calculate the velocity of sound in air?

5. (a) Show by means of diagrams that a concave mirror may be used to produce either real or virtual images of an object.

(b) Describe, using diagrams, any two simple experiments to illustrate the refraction of light.

[OVER]

6. (a) Explain how you would determine (i) the illuminating power, (ii) the resistance of an incandescent electric lamp.

(b) Describe an experiment to illustrate the principle of storage cells.

7. (a) How would you determine the direction of an electric current passing through a wire?

(b) Make a drawing to show the construction of an induction coil. Explain its action and use.

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ENTRANCE INTO THE NORMAL SCHOOLS.

HISTORY.

(BRITISH AND CANADIAN.)

1. Write historical notes on :—

- (a) Character and reign of Alfred the Great.
- (b) Geographical discoveries in the reign of Henry VII.

2. Give an account of the social changes in Britain during the Eighteenth Century (1700-1800) under the heads :—

- (a) Means of communication.
- (b) Agriculture (refer to Inclosure Acts).
- (c) Industrial revolution.

3. Write briefly on :—

- (a) Repeal of the Corn Laws, 1846.
- (b) Literature of the reign of Queen Victoria.

4. Write briefly on :—

- (a) Causes leading to the American Revolution, beginning with the capture of Quebec, 1759.
- (b) American Invasion of Canada, 1775-6.

5. Write historical notes on :—

- (a) Frontenac.
- (b) Expulsion of the Acadians.
- (c) United Empire Loyalists.

6. Give a short sketch of :—

- (a) Selkirk and his Settlements, 1811-12.
- (b) Admission of British Columbia to Confederation.

7. What part did each of the following play in the war of 1812-14 :—Sir Isaac Brock, Tecumseh, and Laura Secord ?

8. What do you understand by each of the terms given in this question ? Responsible Government ; A Federal Union ; Cabinet ; Premier ; and Prorogation of Parliament.

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ENTRANCE INTO THE NORMAL SCHOOLS.

ANCIENT HISTORY.

A.

(Both questions to be taken.)

1. Write on the Orient under the heads:—

(a) Egypt, the birthplace of civilization.

(b) Phoenicia and its influence along the Mediterranean.

2. Where is each of the following and for what noted in history:— Rubicon, Appian Way, Cannae, Salamis, Delphi, Aegospotami?

B.

(Only three questions to be attempted. If a candidate writes on the four questions of B, only the first three attempted will be counted.)

3. "The geographical features (including climate) of Greece exercised an important influence upon the character of the people and upon their history."

Keeping this statement in mind, write on each of the following:—

(a) Political ideals of the Greeks.

(b) Greece, the first European country to become civilized.

4. Outline the career of Alexander the Great under the heads:—

(a) Beginnings of his career.

(b) Wars against Persia.

(c) Character and political aims.

5. "Our chief interest in Greece centres in Athens."

Describe the Athens of Pericles under the heads:—

(a) Art and Architecture.

(b) Social and political conditions.

[OVER]

6. (a) Give an account of the Education of the Youth of Sparta.

(b) Mention some of the chief results of this system of education and discipline.

C.

(Only three questions to be attempted. If a candidate writes on the four questions of C, only the first three attempted will be counted.)

7. (a) Describe the political and social conditions at Rome in the time of the Gracchi.

(b) What were the proposed reforms of Tiberius Gracchus?

8. Give an account of the reign of Augustus (31 B.C.—14 A.D.), under the following heads :—

(a) Titles, policy, and powers of Augustus.

(b) Art and Literature of the period.

9. Write short historical notes on ;—

(a) The First Triumvirate.

(b) Causes of the First Punic War.

10. (a) Trace the events of the Second Punic War from the battle of Cannae to the close of the war.

(b) What were the conditions of peace imposed on the Carthaginians ?

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ENTRANCE INTO THE NORMAL SCHOOLS.

CHEMISTRY.

1. (a) Compare the action of red-hot magnesium on steam with the action of sodium on water.

(b) Describe fully how you would prepare some metallic copper from copper oxide. Write the equation.

2. A mixture of quick lime and ammonium chloride is heated, and the gas generated is passed into a beaker of water. The solution thus formed is neutralized with nitric acid, and evaporated to dryness. The residue is then heated. Describe the chemical changes that take place, and write equations to represent the reactions.

3. (a) Explain, giving a drawing of apparatus, how you would prepare carbon dioxide from limestone. How would you transfer the gas from one vessel to another?

(b) What weight of limestone would be required to prepare 35.8 litres of carbon dioxide at 10°C . and 760 mm. pressure? Show work. ($\text{Ca} = 40$, $\text{C} = 12$, $\text{O} = 16$.)

4. Describe the reactions that take place in each of the following:—

(a) Carbon dioxide is passed through white-hot coke (carbon).

(b) Air is forced slowly through a mass of red-hot copper turnings.

(c) A piece of copper is dropped into nitric acid.

5. Two oxides of a certain substance contain respectively 42.86% and 27.27% of the substance. Show that they illustrate the law of multiple proportions.

6. (a) Give an account of the preparation of sulphuric acid, explaining clearly each step of the process.

(b) Describe experiments to demonstrate two uses of sulphuric acid which make it important as a commercial product.

7. (a) Name two uses of bleaching powder, and explain how it does its work.

(b) Describe experiments to demonstrate the relative chemical activity of chlorine, bromine, and iodine, as shown by their power of displacing one another.

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ENTRANCE INTO THE NORMAL SCHOOLS.

LATIN AUTHORS.

A.

1. Translate into English:—

(a) Dum ea geruntur, legione ex consuetudine una frumentatum missa, quae appellabatur septima, neque ulla ad id tempus belli suspicione interposita, cum pars hominum in agris remaneret, pars etiam in castra ventitaret, ii, qui pro
5 portis castrorum in statione erant, Caesari nuntiaverunt, pulverem maiorem, quam consuetudo ferret, in ea parte videri, quam in partem legio iter fecisset. Caesar id, quod erat, suspicatus, aliquid novi a barbaris initum consilii, cohortes, quae in stationibus erant, secum in eam partem proficisci, ex
10 reliquis duas in stationem cohortes succedere, reliquas armari et confestim sese subsequi iussit.

(b) Posteaquam id obstinate sibi negari vidit, omni spe impetrandi adempta, principes Galliae sollicitare, sevocare singulos hortarique coepit, uti in continenti remanerent; metu
15 territare: non sine causa fieri, ut Gallia omni nobilitate spoliaretur; id esse consilium Caesaris, ut, quos in conspectu Galliae interficere vereretur, hos omnes in Britanniam tractos necaret.

2. Explain the following constructions:—

- (a) The case of *septima* (l. 2), *consilii* (l. 8), *nobilitate* (l. 15).
- (b) The mood and tense of *fecisset* (l. 7), and *remanerent* (l. 14).
- (c) The mood of *erant* (l. 9), and *vereretur* (l. 17).
- (d) The voice of *armari* (l. 10).

3. *in stationibus* (l. 9), ... *in stationem* (l. 10). Account for the difference in number and case.

[OVER]

4. Explain the syntax of *initum* (l. 8), *territare* (l. 15), *feri*, (l. 15).

5. Mark the quantity of the penult of *remaneret*, *pulverem*, *novi*, *initum*, *vidit*.

6. Explain the reference in *ea* (l. 1), *id* (l. 12), *sibi* (l. 12).

B.

7. Translate into English :—

(a) Veniet lustris labentibus aetas,
cum domus Assaraci Phthiam clarasque Mycenae
servitio premet ac victis dominabitur Argis.
nascetur pulchra Troianus origine Caesar,
5 imperium Oceano, famam qui terminet astris,
Iulius, a magno demissum nomen Iulo.
hunc tu olim caelo, spoliis Orientis onustum,
accipies securus; vocabitur hic quoque votis.

(b) Quaerenti talibus ille
10 suspirans imoque trahens a pectore vocem :
' O dea, si prima repentens ab origine pergam,
et vacet annales nostrorum audire laborum,
ante diem clauso componat Vesper Olympo.
nos Troia antiqua, si vestras forte per auris
15 Troiae nomen iit, diversa per aequora vectos
forte sua Libycis tempestas adpulit oris.'

8. Explain the construction of *caelo* (l. 7), *securus* (l. 8), *Quaerenti* (l. 9), *sua* (l. 16), *oris*, (l. 16).

9. Account for the mood of *terminet* (l. 5), and *componat* (l. 13).

10. Scan lines 5 and 14.

11. Explain the historical references in lines 2, 3, and 7.

12. Write explanatory notes on *Troianus Caesar*, (l. 4), *tu* (l. 7), *vocabitur hic quoque votis* (l. 8), *dea* (l. 11).

C.

13. Translate into English :—

(*The Suebi retreat before Caesar.*)

Interim paucis post diebus fit ab Ubiis certior, Suebos omnes in unum locum copias cogere atque iis nationibus, quae sub eorum sint imperio, denuntiare, ut auxilia peditatus equitatusque mittant. His cognitis rebus rem frumentariam

providet, castris idoneum locum deligit ; Ubiis imperat, ut pecora deducant suaque omnia ex agris in oppida conferant, sperans, barbaros atque imperitos homines inopia cibariorum adductos ad iniquam pugnandi condicionem posse deduci ; mandat, ut crebros exploratores in Suebos mittant, quaeque apud eos gerantur, cognoscant. Illi imperata faciunt et paucis diebus intermissis referunt: Suebos omnes, posteaquam certiores nuntii de exercitu Romanorum venerint, cum omnibus suis sociorumque copiis, quas coëgissent, penitus ad extremos fines se recepisse.

certior fieri—to be informed.

denuntio—order.

cibaria— (plur.) provisions.

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ENTRANCE INTO THE NORMAL SCHOOLS.

LATIN COMPOSITION AND GRAMMAR.

A.

1. Decline together (*a*) (sing. and pl.) *locum munitum*, *eosdem portus*, and (*b*) (pl. only) *tres cervos errantes*.
2. Give in agreement the genitive singular and plural of *cui parti*, *hostes pulsi*, and *vincula ulla*.
3. Write out in full :—the present indicative passive of *interficio* ; the future indicative of *adeo* ; and the imperfect subjunctive of *volo* (wish).
4. Give the nominative singular of (*a*) the active participles of *video*, and (*b*) the passive participles of *prospicio*.

B.

(NOTE.—*The following sentences are NOT to be translated ; they are the basis for the questions thereon.*)

- (*a*) *Parce metu Cytherea ; manet immota tuorum fata tibi.*
- (*b*) *Nec prius absistit quam septem ingentia victor corpora fundat humi.*
- (*c*) *Tum Cererem corruptam undis cerealiaque arma expediunt fessi rerum.*
- (*d*) *Ad eum legati venerunt, qui se de superioris temporis consilio excusarent, quod homines barbari et nostrae consuetudinis imperiti bellum populo Romano fecissent.*
- (*e*) *Britanniae pars interior ab iis incolitur quos natos in insula ipsi memoria proditum dicunt.*
- (*f*) *Pari spatio transmissus atque ex Gallia est in Britanniam.*

5. Explain the case of each of the italicized words in the above extracts.

[OVER]

6. Account for the following :—

- (a) The mood and tense of *fundat* in (b), *excusarent* and *fecissent* in (d).
- (b) The gender and case of *proditum* in (e).
- (c) The use of *atque* in (f).

7. Give the principal parts of *parce*, *manet*, *absistit*, *fundat*, *corruptam*, *expediunt*, *fecissent*, *incolitur*, *proditum*.

8. Give the other degrees of comparison of *prius*, *ingentia*, *superioris*, *imperiti* and *interior*.

C.

9. Translate into Latin :—

- (a) Caesar said that hostages had been sent to him by the Morini.
- (b) When this was announced to Dumnorix, he set out at once in that direction.
- (c) They exhorted him to return home as soon as possible.
- (d) Whenever the enemy were repulsed by our cavalry they hid themselves in the woods.
- (e) Who ordered (*impero*) Labienus to lead back the legions into the camp?
- (f) The sailors begged him to wait at anchor until the other ships should arrive.
- (g) If the Britons should send ambassadors to Caesar, he would receive them under his protection.
- (h) They sent messengers to show what was going on among the Aedui.

10. Translate into Latin :—

(The Latin words are given below in the uninflected form and the Latin order.)

When it was known that Caesar had arrived, Acco, who had been the ringleader of this plot, ordered all the people to assemble in the towns. Before this could be accomplished, word was brought that the Romans were at hand. Of necessity, they abandoned their purpose and sent ambassadors to Caesar to beg off; they made their application through the Aedui, under whose protection their state had been from ancient times. On the intercession of the Aedui, Caesar freely granted them pardon and accepted their excuse, because he considered that summer was the season for the impending war, not for conducting a trial. Having ordered a hundred hostages, he delivered them to the Aedui to guard.

Cognosco Caesar adventus, Acco, qui princeps is consilium sum, jubeo in oppidum multitudo convenio. Priusquam is efficio possum, adsum Romanus nuntio. Necessario sententia desisto legatusque deprecor causa ad Caesar mitto; adeo per Aeduus, qui antiquitus sum in fides civitas. Libenter Caesar peto Aeduus do venia excusatioque accipio, quod aestivus tempus insto bellum non quaestio sum arbitror. Obses impero centum hic Aeduus custodio trado.

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GEOGRAPHY.

1. (a) Explain how glaciers are formed, and account for lateral and medial moraines.

(b) Account for the origin and presence of icebergs in the North Atlantic Ocean.

2. (a) Describe the trade winds; explain their causes, and account for the rainfall of the doldrums.

(b) Certain regions on the earth are almost rainless. Explain why this is the case in any such region you may select.

3. By means of a diagram illustrate the position of the earth in its orbit, and the inclination of its axis, on March 21st, June 21st, September 23rd, and December 22nd, respectively.

4. Sketch a map of Europe showing its countries and their capitals, and on it locate the following:—Venice, Trieste, Riga, Odessa, Bordeaux, Belfast, Cork, Inverness, Leeds, Barcelona.

5. On an outline map of the Dominion of Canada, show approximately the positions of the most important districts for each of the following:—lumbering, coal mining, copper mining, silver mining, wheat raising, butter and cheese making, fruit growing.

6. (a) Under what conditions as to soil, climate, and labour, are cotton, sugar cane, and tea, respectively, most profitably grown?

(b) Show that these conditions apply to those parts of the earth which produce the great bulk of these commodities.

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ENTRANCE INTO THE NORMAL SCHOOLS.

ARITHMETIC AND MENSURATION.

1. Prove that $\frac{2}{3} = \frac{6}{9}$, and that $\frac{2}{3} \div \frac{3}{4} = \frac{8}{15}$.

2. (a) Find the value of $\cdot 0256 \times 1\cdot 0071 \div 2\cdot 7975$.

(b) Find, to four decimal places, the square root of $\cdot 037$.

3. A contractor undertakes to build a piece of road in 60 days. He begins the work with 35 men but finds that he has completed only $\frac{5}{8}$ of it in 40 days. How many additional men must he now engage in order to finish his contract on time?

4. A jeweller requires 120 ounces of an alloy made up of 3 parts, by weight, of gold to one of silver. The only gold he can get is in an alloy made up of 5 parts gold to one of silver. How much of this alloy must he use and how much silver must he add to it to make up the alloy required?

5. On June 9th, 1905, Mr. Larkins borrowed \$560 agreeing to pay $6\frac{1}{4}\%$ interest on the principal. He reserved the right to pay the interest due together with any part of the principal at any time he might wish to do so, and accordingly he paid \$150 on August 11th, and \$200 on October 23rd, 1905. What amount would he be required to pay to settle the account on March 18th, 1906?

6. A dealer imports 1000 gallons of spirits invoiced at \$2.40 per gallon. He pays a specific duty of 20 cents per gallon and an ad valorem duty of 30%. If he is allowed 20% and $12\frac{1}{2}\%$ discount off his bill and remits payment by a draft purchased at $\frac{1}{4}\%$ premium, find his total outlay.

7. (a) Find in kilolitres, the volume of a rectangular solid 3.2 metres long, 2.4 metres wide and 6.5 decimetres deep.

(b) Find the lateral area of a cylinder the altitude of which is 16 feet and the radius of whose base is $3\frac{1}{2}$ feet.

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ENGLISH GRAMMAR.

1. (a) Write out in full each subordinate clause in the following sentence, giving its grammatical value and relation :—

Last session a step was taken by what is called the progressive party, which, as was then frequently stated, will probably be of vast importance, as it aims at abolishing capital punishment except in cases where state officers have planned insurrection.

(b) Parse the italicized words in the following sentence :—

Regions Caesar never *knew*, thy posterity shall sway;
Where his eagles never flew, *none* invincible as *they*.

2. State definitely the grammatical value and the relation of each italicized word in the following :—

(a) He seemed a *being* fresh from the hand of God.

(b) They wept their *eyes* *blind*.

(c) He was promised a better *position*.

(d) The wound was only *skin* deep.

(e) *Sword* in hand, he hesitated not a *moment* but charged the foe.

(f) I buy magazines at *Baker* the bookseller's shop.

3. (a) Write out all the inflected forms of the verb "speak".

(b) Explain how the modern English verb is able to do with so few inflected forms.

(c) Explain the various uses of the infinitive as shown in the following :—

To speculate about the world *to come* is common.

I think you are much *to blame* for trying *to use* such influence *to gain* your ends.

[OVER]

4. (a) Using the present tense of the verb “to be”, complete the following sentences, explaining the laws of agreement :—

Either you or I.....in the wrong.

Either you or he.....in the wrong.

Thou, not I,.....in the wrong.

The officer as well as the men.....in the wrong.

(b) Select the correct form in each of the following, explaining the reason for your selection :—

Art thou that Egyptian which (made *or* madest) the uproar ?

You and I will try, each after (our *or* his) own way.

The contempt usually shown towards those (who *or* whom) they imagine are poor.

Such was the best French (that *or* which) he could muster.

5. Examine the adequacy of the following definition :—

“A pronoun is a word which takes the place of a noun.”

6. (a) Show that English is a composite and analytic language.

(b) Explain concisely how it came to be so.

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ART.

1. Draw in pencil outline *three* of the following figures in action, each figure to be four inches high:—

A man raking.

A girl playing basketball.

A boy running.

A man chopping.

A boy playing marbles.

A girl skipping the rope.

2. Two bricks are lying on the ground at an angle with the line of direction; one lies flat, the other rests partly on the ground, partly on the other brick. Draw them with pencil or crayon, showing light and shade. (Size of drawing to be about five inches.)

3. Paint in water colours the plant or flower submitted.

4. Make a design six inches square, suitable for a teapot stand or tile to be worked out in wood or clay, having a rim or margin and a simple symmetrical design of clover within. Use pencil or crayon.

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ENTRANCE INTO THE NORMAL SCHOOLS.

BIOLOGY—PRACTICAL.

TIME—ONE HOUR AND 15 MINUTES.

1. Write a description of the plant submitted, under the following heads:—

- (a) The flower.
- (b) Protective structures.
- (c) Habitat.
- (d) Means of multiplying and spreading.
- (e) Arrangement of leaves.
- (f) Economic value.

2. Indicate the relation of the plant to other plants, as follows:—

Series—Phanerogam or Cryptogam? Why?

Class—Dicotyledon or Monocotyledon? Why?

Sub-Class—Angiosperm or Gymnosperm? Why?

Division—State division to which it belongs. Why?

Order—State the characteristics of the plant which would enable one to refer it to its proper order.

3. (a) Write a description of the animal submitted, paying special attention to sense-organs, appendages, and adaptation to environment.

(b) Compare it with the toad.

(c) Is the specimen a vertebrate or an invertebrate? Give reasons for your answer.

(d) To what class of animals does it belong?

(e) Name a higher class of animals.

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ENTRANCE INTO THE NORMAL SCHOOLS.

WRITING, BOOK-KEEPING, AND BUSINESS PAPERS.

NOTE.—*Candidates are reminded that their writing will be judged from this paper.*

1. Toronto, April 1st, 1910. I (Student) commenced business for the month of April, with assets and liabilities as follows:—

Mdse. \$1000, Cash \$2600, Open Accounts Receivable \$260, Open Accounts Payable \$500.

April 2. Bought of J. E. Morse, for cash, 200 bbls. flour at \$6 a bbl.

April 4. Received Cash from J. P. Telford on account, \$60.

April 5. Withdrew for private use, cash \$40.

April 6. Paid rent of store by cheque on Standard Bank, \$50.

April 8. Received cash from McGowan Milling Co. to apply on account, \$200.

April 9. Gave A. S. Hunter my note at ten days with interest at 6% to apply on account, \$500.

April 13. Sold R. Burnett on his acceptance, Mdse. \$200.

April 18. Bought of E. Limin, 200 bbls. beef at \$13 per bbl. Paid him cash, \$600. My note at 15 days for balance.

April 20. Gave cash to Childrens' Hospital, \$15.

April 26. Sold A. S. Hunter 100 bbls. beef at \$17 a bbl. and received in payment a cheque for \$1000 on the Standard Bank and his note at three months for \$500, the balance to remain on account.

April 27. I deposit \$500 cash and A. S. Hunter's cheque in the Standard Bank.

April 28. Prepaid my note of the 18th inst. in favour of E. Limin, \$2000, Discount off, 8 days, \$2.67. Paid Balance in cash, \$1907.33.

April 28. Inventory, Mdse., \$3500.

(a) Journalize each of the foregoing items.

(b) Post, balance, and close all the accounts.

(c) Write the Business Forms used on the 9th, 13th, and 26th.

(d) Write the Deposit Slip used on the 27th.

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ENTRANCE INTO THE NORMAL SCHOOLS.

BIOLOGY—WRITTEN.

TIME—1 HOUR AND 15 MINUTES.

1. Describe one experiment in each case to show that growing plants :—

- (a) give off water ;
- (b) manufacture starch in sunlight ;
- (c) lose starch in darkness ;
- (d) exhale oxygen in sunlight ;
- (e) exhale carbon dioxide (carbonic acid gas).

2. Give an account of the following stages of insect life :—

- (a) The larval stage of the cabbage butterfly.
- (b) The larval stage of the dragon fly.
- (c) The pupal stage of the tomato sphinx moth.
- (d) The pupal stage of the codling moth.
- (e) The adult stage of the common house fly.

3. Name three plants useful to mankind ; name the insect pests of each ; and describe common means of protecting each of these plants against its pests.

4. Name three injurious garden or farm weeds ; state why each is injurious ; and tell how each may be most economically destroyed.

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SPELLING.

NOTE.—The Presiding Officer shall read section A three times—the first time to enable the candidate to grasp the sense; the second, slowly, to enable the candidate to write the words; the third, for review. For sections B and C only two readings are required—the first, for writing; the second, for review.

Five marks are to be deducted for each misspelt word.

A.

There was something in the frame and constitution of the company which extended the sordid principles of their origin over all their successive operations, connecting with their civil policy, and even with their boldest achievements, the meanness of the peddler and the profligacy of pirates. Alike in the political and the military line could be observed auctioneering ambassadors and trading generals; and we saw a revolution brought about by affidavits; an army employed in executing an arrest; a town besieged on a note of hand; a prince dethroned for the balance of an account. Thus it was that they exhibited a government which united the mock majesty of a bloody sceptre and the little traffic of a merchant's counting-house, wielding a truncheon in one hand and picking a pocket with the other.

B.

accidental	deceitfully	feignedly	imbecility
accessible	descendant	ghastliness	inconceivable
baptism	eccentric	gnawed	inconvenient
evanescent	heiress	inefficient	irresistible
characteristic	fierceness	hysterics	

C.

accommodate	restaurant	villain	dissatisfy
embarrass	similarly	business	disappear
precede	niece	indelible	salary
lettuce	exhilarate	vaccinate	cereal
occurrence	caterpillar	rinse	peaceable

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JUNIOR MATRICULATION.

HISTORY.

Examiners: { W. J. ALEXANDER, PH.D.
E. J. KYLIE, M.A.
J. F. MACDONALD, M.A.

PART A.—BRITISH AND CANADIAN.

1. Discuss the career and influence of *either* Oliver Cromwell or George III.
2. Show how and with what results England used her navy from 1793 to 1815.
3. Describe the invasion of Canada by the American colonies during the War of Independence. Illustrate your answer by a map.
4. Describe the events leading to the Rebellion of 1837-38 in Upper and Lower Canada?

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JUNIOR MATRICULATION.

HISTORY.

Examiners: { W. J. ALEXANDER, PH.D.
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J. F. MACDONALD, M.A.

PART B.—ANCIENT.

1. What is meant by the Athenian Empire ?
2. Sketch *either* the career and aims of Alexander the Great *or* the career and influence of Pompey.
3. (a) Show how the geographical character and position of Greece affected the character, life and movements of the Greek people. Illustrate your answer with a map.
(b) Where and what and for what noted are Saguntum, Zama, Ostia, Syracuse, Pharsalus ?
4. Describe the effects of foreign conquests upon the Roman Republic.

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JUNIOR MATRICULATION.

EXPERIMENTAL SCIENCE.

Examiners: $\left\{ \begin{array}{l} \text{F. B. ALLAN, PH.D.} \\ \text{W. C. BAKER, M.A.} \\ \text{R. W. SMITH, PH.D.} \end{array} \right.$

PHYSICS.

NOTE.—*The candidate shall answer either Sections A and B, or Sections A and C.*

A.

1. (a) Explain the transmission of heat by convection.
(b) Outline a laboratory experiment to show convection currents in gases.
(c) Give two instances of the occurrence of convection currents in nature.

2. A blacksmith throws a hot horse-shoe into a wooden pail containing 800 cc. of water at 15°C . After the emission of steam has ceased, the water is well stirred and the common temperature of water and iron is 35° . The horse-shoe is weighed and found to be 300 grams. It is also noted that 10 cc. of the water has evaporated. Calculate the original temperature of the horse-shoe. Take the specific heat of iron as 0.11, and the latent heat of vaporization of water as 537.

3. When a class-room 6 metres by 7 metres by 9 metres was closed for the night a thermometer in the room stood at 17°C , the pressure being 76 cms. By morning the temperature had fallen to 10° , the pressure being unaltered.

(a) Find the mass of air contained in the room in the morning.

(b) By how much does this exceed the mass of air contained in the room on the previous evening?

(One cubic centimetre of air at 10° and 76 cms. has a mass of 0.00134 grams.)

[OVER]

B.

4. On entering a room that had been closed for some time a smell of illuminating gas is noticed. It is traced to a leak in the gas fixture.

(a) How do you account for the transference of the gas from the fixture to the other parts of the room?

(b) What term is used to express this mode of transference of gas?

5. (a) A glass of water is drawn from a cool well and is set aside. Some time later the inner surface of the glass is found to be coated with small air bubbles. Tell where these have come from and what has caused them to appear.

(b) Account for the magnitude of the upward force exerted by a fluid at rest on a body immersed in it.

6. A long capillary tube is closed at one end and contains, near the open end, a short thread of mercury completely filling the cross section of the tube. When the barometer stands at 30 inches, the distance from the closed end of the tube to the mercury is 3 feet. The open end of the tube is now connected to the water tap and as the pressure is turned fully on the mercury is forced 2 feet along the tube.

(a) Calculate the pressure of the water in the tap in inches of mercury.

(b) Calculate the pressure of the water in the tap in feet of water.

(Sp. gr. mercury = 13.6).

C.

7. (a) What is meant by the terms *nodes* and *loops* when applied to the vibrations of the air in an organ pipe?

(b) What is a manometric flame, and for what is it employed?

8. (a) You are given two lamps of different sizes. Show how you would proceed to compare the intensities of the light emitted by the lamps.

(b) How is a spectrum produced, and how do we account for it?

9. Electric bells for changing classes are rung on the two floors of a school-house (one on each floor). The bells are of 199 ohms each, and the wiring from the battery to the bells is 1 ohm for the lower floor, and 21 ohms for the upper floor. If the circuits be connected in parallel to a battery of 3 dry cells in series, find the maximum current used. Take the E. M. F. of one cell to be 1.4 volt, and the internal resistance of one cell to be 0.3 ohm.

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JUNIOR MATRICULATION.

EXPERIMENTAL SCIENCE.

Examiners: { F. B. ALLAN, PH.D.
W. C. BAKER, M.A.
R. W. SMITH, PH.D.

CHEMISTRY.

1. Describe a laboratory method of preparing (a) chlorine, (b) hydrogen and (c) hydrogen sulphide. Each description should include the method of collecting the gas and a diagram of the apparatus.

2. Of the following substances: hydrogen chloride, ammonia, ammonium sulphate, sulphur trioxide, carbon dioxide, methane, and sulphur dioxide—

Which are quite soluble in water?

Which are insoluble or slightly soluble in water?

Which are solids at ordinary temperature?

Which are gases at ordinary temperature?

Which of the gases are heavier than carbon monoxide?

3. (a) A solution of salt (sodium chloride) at 20°C is given. How might you determine whether it is a saturated solution or an unsaturated solution?

(b) If a solution of salt saturated at 25°C were heated to 50°C would it still be a saturated solution? What would happen if a small crystal of salt were added to this solution saturated at 25°C and it were then cooled to 0°C?

4. State fully all the information given in the equation



[OVER]

5. Describe what happens when

- (a) magnesium ribbon is heated in a bunsen burner,
- (b) a platinum wire is heated in a bunsen burner,
- (c) sugar is treated with water,
- (d) ammonia solution is added to hydrochloric acid.

Which of the products are chemical compounds and which are solutions? Give reasons for your answer in each case.

6. If 3 litres of ammonia gas measured at 0°C and 760mm. is added to 3 litres of hydrogen chloride gas measured at 25°C and 750mm, what will be the volume of the remaining gas measured at 20°C and 760mm?

7. Explain what is meant by the following terms:— (a) an oxide, (b) a sulphate, (c) an element, (d) a mixture, (e) a formula.

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JUNIOR MATRICULATION.

ARITHMETIC AND MENSURATION.

Examiners: { A. T. DeLury, M.A.
W. Findlay, Ph.D.
W. J. Patterson, M.A.

1. Express the following as a vulgar fraction reduced to its lowest terms:—

$$\frac{315}{7493} - \frac{364}{9017}.$$

2. Find the amount of \$10.00 at the end of two years compounded half yearly at the rate of 7 per cent per annum, contracted multiplication preferred, keeping only as many digits as are required in order to secure the answer correct to the nearest cent.

3. Find the diameter of a circular field of which the area is 4 acres. Express your answer in chains, yards and inches, correct to the nearest inch.

4. What percentage of profit does a grocer obtain who purchases a commodity at 80 cents a bushel and sells it at 4 cents a quart?

5. A company insures a building for \$20,000 at 2%. It reinsures 30% of the risk at $2\frac{1}{2}$, and 20% at $1\frac{3}{4}$. What rate of insurance did the company obtain on the risk retained?

6. On June 30th a Toronto exporter discounted at 6% the note of a Glasgow customer for £112 12s dated June 10th for 90 days. Find the proceeds (Canadian currency), exchange being at \$4.86 $\frac{2}{3}$.

7. A prism of glass of which the length is 50 cm. and the base a right-angled triangle with sides 10, 8, and 6 cm. respectively, weighs 3 kilograms. Find the weight in grams of one cubic centimetre of the glass.

8. An investor purchased a stock paying 6%, brokerage $\frac{1}{8}$ %. If he obtained a net income of 8% on his investment after paying an income tax of 15 mills on the dollar, what was the price of the stock?

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JUNIOR MATRICULATION.

ENGLISH GRAMMAR AND RHETORIC.

Examiners: { W. J. ALEXANDER, PH.D.
E. J. KYLIE, M.A.
J. F. MACDONALD, M.A.

Into this federation our Saxon ancestors were now admitted. A regular communication was opened between our shores and that part of Europe in which the traces of ancient power and policy were *yet* discernible. Many noble monuments, which have since been destroyed or defaced, still retained their pristine magnificence ; and travellers, to whom Livy and Sallust were unintelligible, might gain from the Roman aqueducts and temples some faint notion of *Roman history*. The islanders returned, with awe deeply *impressed* on their half-opened minds, and told the wondering inhabitants of the hovels of London and York that near the grave of St. Peter a mighty race, now *extinct*, had piled up buildings which would never be dissolved till the Judgement Day. *Learning* followed in the train of Christianity. The poetry and eloquence of the Augustine Age was assiduously studied in Mercian and Northumbrian monasteries. The names of Bede and Alcuin were justly celebrated *throughout* Europe. *Such* was the state of our country when, in the ninth century, began the last great migration of northern barbarians.

1. Write out in full each subordinate clause in this paragraph. State clearly its grammatical value and relation.

2. State the grammatical value and relation of each italicized phrase or word (a) in the paragraph above, (b) in the following sentences :—

I met him *walking* to the station.

In spite of his troubles, he is always cheerful.

He talks of *going* to Europe.

There is no one *but* believes him.

3. (a) What is the subject of the paragraph? In which sentence is it clearly stated?

(b) What is the rhetorical purpose served by the short sentence, " Learning followed in the train of Christianity " ?

[OVER]

4. Give a brief account of the influence of Latin and Norman French on the vocabulary of the English language. Give examples to illustrate your statements.

5. (a) Write the other number forms of :— solo, pence, hero, handful.

(b) Write the past tense and perfect participle of :— lay, abide, beseech, get, shake, strike.

6. Write three sentences to illustrate the following constructions :—

Factitive Objective Predicate Adjective,
Direct and Indirect Object of one verb,
Adverbial Objective Case of a noun.

7. Correct or improve the following sentences :—

(a) They are densely ignorant of our laws, and no language is spoken by them except Spanish.

(b) It is one of the strangest sights that has ever been seen.

(c) The man, as well as his brother, are not to be trusted.

(d) Who did you see? No one but officers are allowed inside the lines.

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JUNIOR MATRICULATION.

ALGEBRA.

Examiners: $\begin{cases} \text{A. T. DELURY, M.A.} \\ \text{W. FINDLAY, PH.D.} \\ \text{W. J. PATTERSON, M.A.} \end{cases}$

1. (a) Multiply $3x^3 - 4x^2y + 5xy^2 - 7y^3$ by $2x^2 - 3xy + 4y^2$, and divide the product by $x^2 - xy + y^2$. (The method of detached coefficients preferred.)

(b) Expand $(3a^3b - 2a^2b^2c + ab^3c^2 + b^4c^3)^2$.

(c) Divide $a^{10} + b^{10}c^{15}$ by $a^2 + b^2c^3$.

2. Resolve into two factors each of the following:—

(a) $y^2 + 8y - 153$.

(b) $15a^2 - 23abx - 28b^2x^2$.

(c) $(2a - 3b)^3 - 1$.

(d) $a^2x^2 + 2acx - b^2y^2 + c^2$.

3. Find (a) the Highest Common Factor, and (b) the Lowest Common Multiple of $4x^3 - 12x^2 - x + 3$ and $2x^3 + x^2 - 18x - 9$.

4. (a) Find the single fraction in its lowest terms which is equal to:—

$$\frac{1}{a-b} - \frac{1}{2(a+b)} - \frac{a+3b}{2(a^2+b^2)} - \frac{4b^3}{a^4-b^4}.$$

(b) Solve:—

$$\frac{2}{3}(4x+1) - \frac{1}{7}(3x-2) + 6 - \frac{1}{9}(5x+2) = 0.$$

5. (a) Solve:—

$$ax + y = 1,$$

$$x - by = c.$$

(b) Solve:—

$$3x - 2y - z = 1,$$

$$4x - 3y + 4z = -3,$$

$$2x + y - 5z = -2.$$

[OVER]

6. (a) State clearly what is meant by each of the following:—

$$y^{m+n}, \quad (z^m)^n, \quad x^0.$$

(b) Find the value of each of the following:—

$$8^{\frac{2}{3}}, \quad 9^{-\frac{3}{2}}, \quad \sqrt[3]{(125)^2}.$$

7. (a) Divide $6ax^{\frac{2}{3}} - a^{\frac{1}{2}}bx^{\frac{1}{3}}y^{-1} - 2b^2y^{-2}$ by $2a^{\frac{1}{2}}x^{\frac{1}{3}} + by^{-1}$.

(b) Solve: $px^2 + 2qx + r = 0$, giving the work in full.

8. (a) Form the equation whose roots shall be three times the roots of the equation:—

$$5x^2 - 7x + 2 = 0.$$

(b) Find the values of k for which $x^3 - 2k^2x^2 + 3kx - 2$ shall be exactly divisible by $x - 1$.

9. The length of the diagonal of a rectangle is 39 rods and the length of the shorter side is $\frac{5}{12}$ that of the longer. Find the area of the rectangle.

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JUNIOR MATRICULATION.

ENGLISH COMPOSITION.

Examiners: { W. J. ALEXANDER, PH.D.
E. J. KYLIE, M.A.
J. F. MACDONALD, M.A.

NOTE.—*The candidate must not use in his composition any name which would indicate his examination centre.*

Write a composition on *one* of the following subjects :—

1. Marcus Brutus.

(Write a life of Brutus, based upon Shakespeare's play, such as might be found in a dictionary of biography.)

2. The services of the Duke of Wellington to his country.

(This is to be based on Tennyson's Ode, but additional facts may be used which have been learned from history.)

3. A familiar scene.

(An actual scene visible from a fixed spot is to be described so that the reader may have a clear mental image of it.)

4. Should Canada have a navy ?

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JUNIOR MATRICULATION.

GEOMETRY.

Examiners: { A. T. DeLury, M.A.
W. Findlay, Ph.D.
W. J. Patterson, M.A.

A.—CONSTRUCTIONS.

1. Construct a triangle with sides of lengths $2\frac{3}{4}$, $3\frac{1}{4}$, and $3\frac{3}{4}$ inches; find the centre of the circumscribing circle, and draw this circle; take any point on the circumference and draw perpendiculars from it to the three sides.

Note any suggestion from the position of the feet of the three perpendiculars.

2. (a) Construct a square equal to a given rectangle.

(b) Establish the method of construction employed in (a).

B.—THEOREMS.

3. If two sides and the included angle of one triangle be equal respectively to two sides and the included angle of another triangle, the triangles are equal in all respects.

4. $ABCD$ is a quadrilateral with its sides AD , BC equal, and with AB parallel to CD and equal to half of it. If AE be drawn parallel to BC to meet CD in E , show that the triangle ADE is isosceles, and that its area is one-third that of the quadrilateral.

5. The square on the hypotenuse of a right-angled triangle is equal to the sum of the squares on its sides.

6. The opposite angles of a quadrilateral inscribed in a circle are together equal to two right angles.

7. If from a point A without a circle, a tangent AB and a secant ACD be drawn, show that the triangles ACB , ABD are equiangular.

[OVER]

8. If the vertical angle of a triangle be bisected, the bisecting line divides the base into segments which are proportional to the sides of the triangle.

9. $ABCD$ is a square: a point E is taken in AB such that AE is to EB as 2 to 3, and a point F in AD such that DF is to FA as 2 to 3. Show that AC divides EF into segments in the ratio of 2 to 3.

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JUNIOR MATRICULATION.

ENGLISH POETICAL LITERATURE.

Examiners: { W. J. ALEXANDER, PH.D.
E. J. KYLIE, M.A.
J. F. MACDONALD, M.A.

NOTE.—*It is extremely desirable that all answers should be concise and to the point.*

1. (a) What is the main idea expressed in *Ulysses*?
(b) State the circumstances in which, as you gather from the poem, Ulysses is speaking.
(c) State the history of the speaker, as gathered from the poem.
(d) What is there in these circumstances and in this history that makes the main idea more striking?
2. (a) The exhalations whizzing through the air
Give so much light that I may read by them.
(i) In what circumstances is this passage spoken, and by whom?
(ii) Explain this use of "exhalations."
(b) In such a time as this it is not meet
That every nice offence should bear his comment.
(i) In what circumstances is this spoken?
(ii) Explain exactly the meaning of "nice" here.
(iii) What is the antecedent of "his"?
(c) Shot like a streamer of the northern morn,
Seen where the moving isles of winter shock.
(i) To what, in the context, does "shot" belong?
(ii) Explain "streamer of the northern morn."
(iii) Explain "moving isles of winter."
(d) Who dabbling in the fount of fictive tears,
And nursed by mealy-mouthed philanthropies.
(i) In what connection does this passage appear?
(ii) Explain "fount of fictive tears."
(iii) What are those "who dabbling" etc., said, in the original, to do?

[OVER]

3. The splendour falls on castle walls
 And snowy summits old in story :
 The long light shakes across the lakes,
 And the wild cataract leaps in glory.
- 5 Blow, bugle, blow, set the wild echoes flying,
 Blow, bugle ; answer, echoes, dying, dying, dying.
- O hark, O hear ! how thin and clear,
 And thinner, clearer, farther going !
 O sweet and far from cliff and scar
- 10 The horns of Elfland faintly blowing !
 Blow, let us hear the purple glens replying :
 Blow, bugle ; answer, echoes, dying, dying, dying.
- O love, they die in yon rich sky,
 They faint on hill or field or river :
- 15 Our echoes roll from soul to soul,
 And grow for ever and for ever.
- Blow, bugle, blow, set the wild echoes flying,
 And answer, echoes, answer, dying, dying, dying.

(a) In a single phrase give a title to this poem that shall adequately indicate the main thought expressed in the poem.

(b) Indicate the parts of the poem that do not directly express this thought, and explain their bearing upon it.

(c) Explain "scar" (l. 9), "Elfland" (l. 10), "our" (l. 15).

4. Give an outline of the first scene of *Julius Caesar*, and show what this scene contributes to the play.

5. Point out the motives and influences as they are successively indicated in the play, which serve to account for Brutus' taking part in the assassination of Caesar.

6. Quote *ten* successive lines from *Julius Caesar*, and also *three* successive stanzas from one of the songs in *The Princess*, other than the one quoted in question 3.

7. I left behind the ways of care,
 The crowded hurrying hours,
 I breathed again the woodland air,
 I plucked the woodland flowers ;
- 5 Bluebells as yet but half awake,
 Primroses pale and cool,
 Anemones like stars that shake
 In a green twilight pool—
- On these still lay an enchanted shade,
- 10 The magic April sun ;
 With my own child, a child I strayed,
 As though the years were one.

As through the copse she went and came,
My senses lost their truth ;
15 I called her by the dear dead name
That sweetened all my youth.

(a) Clearly express in simple prose language the substantial meaning of :—

- (i) "Bluebells as yet but half awake" (l. 5);
- (ii) "As though the years were one" (l. 12);
- (iii) "My senses lost their truth" (l. 14).

(b) Tell concisely what you gather as to the scene and time presented in the poem.

(c) Tell precisely what you gather as to the speaker in the poem.

(d) In a single phrase give a title to the poem that shall, as adequately as possible, bring out the main thing that the poem expresses.

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JUNIOR MATRICULATION.

LATIN AUTHORS (VIRGIL), ACCIDENCE AND SIGHT TRANSLATION.

Examiners: { A. CARRUTHERS, M.A.
G. W. MITCHELL, M.A.
E. T. OWEN, M.A.

A.

1. Translate into English:—

- (a) Progeniem sed enim Troiano a sanguine duci audierat, Tyrias olim quae verteret arces; hinc populum late regem belloque superbum venturum excidio Libyae: sic volvere Parcas.
- (b) Defessi Aeneadae, quae proxima litora cursu contendunt petere, et Libyae vertuntur ad oras. est in secessu longo locus; insula portum efficit obiectu laterum, quibus omnis ab alto frangitur inque sinus scindit sese unda reductos.
- (c) At Venus obscuro gradientes aere saepsit, et multo nebulae circum dea fudit amictu, cernere ne quis eos, neu quis contingere posset, molirive moram, aut veniendi poscere causas.
- (d) Hoc primum in luco nova res oblata timorem leniit; hic primum Aeneas sperare salutem ausus et adflictis melius confidere rebus namque, sub ingenti lustrat dum singula templo, reginam opperiens, dum, quae fortuna sit urbi, artificumque manus inter se operumque laborem miratur, videt Iliacas ex ordine pugnas, bellaque iam fama totum vulgata per orbem.

2. In 1 (a): What is the relation of *progeniem* (l. 1)? Explain the mood of *verteret* (l. 2); what is the relation of *regem* (l. 3)? Explain the case of *bello* (l. 3); the case of *excidio* (l. 4); the syntax of *volvere* (l. 4).

[OVER]

In 1 (b): What is the relation of *litora* (l. 1)? Comment on the use of the voice in *vertuntur* (l. 2), and *frangitur* (l. 5); in what other way could this be expressed? Give an example. What is the relation of *omnis* (l. 4)?

In 1 (c): Explain the tense and case of *gradientes* (l. 1); what is the relation of *multo* (l. 2)? Explain the syntax of *cernere* (l. 3); of *posset* (l. 3); of *veniendi* (l. 4).

In 1 (d): Explain the syntax of *oblata* (l. 1); of *lustrat* (l. 4); what form is *singula* (l. 4)? Explain the syntax of *sit* (l. 5); of *fama* (l. 8); of *vulgata* (l. 8).

3. Give the principal parts of *frangitur*, *scindit*, *fudit*, *cernere*, *poscere*, *oblata*, *ausus*.

4. Write out the following tenses:—future indicative active of *fero*; present subjunctive active of *redeo*; present indicative passive of *capio*.

5. Name the case, and give the nominative singular and the gender of *laboris*, *mari*, *solem*, *operum*, *vires*, *manibus*, *pectore*.

6. Give the other degrees of comparison of the following (in adjectives in the same case, gender, and number as the form given):—*simili*, *graviora*, *pulchro*, *saepissime*.

7. What is the name given to the metre of the *Aeneid*? Explain this name. Scan the first and last lines of the extract in 1 (a).

B.

8. Translate into English:—

Caesari omnia uno tempore erant agenda: vexillum proponendum, signum tuba dandum, ab opere revocandi milites, acies instruenda, milites cohortandi. Quarum rerum magnam partem temporis brevitās et incursus hostium impediēbat. His difficultatibus duae res erant subsidio, scientia atque usus militum, quod superioribus proeliis exercitati, quid fieri oporteret non minus commode ipsi sibi praescribere quam ab aliis doceri poterant, et quod ab opere singulisque legionibus singulos legatos Caesar discedere nisi munitis castris vetuerat.

vexillum—standard.

tuba—trumpet.

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JUNIOR MATRICULATION.

LATIN COMPOSITION, SYNTAX, AND CAESAR.

Examiners: { A. CARRUTHERS, M. A.
E. T. OWEN, M.A.
G. W. MITCHELL, M.A.

A.

1. (a) Translate into idiomatic English:—

Quibus ex navibus cum essent expositi milites circiter trecenti atque in castra contenderent, Morini, quos Caesar in Britanniam proficiscens pacatos reliquerat, spe praedae adducti primo non ita magno suorum numero circumsteterunt ac, si sese interfici nollent, arma ponere iusserunt. Cum illi orbe facto sese defenderent, celeriter ad clamorem hominum circiter milia sex convenerunt. Qua re nuntiata Caesar omnem ex castris equitatum suis auxilio misit.

(b) Parse *pacatos*, *adducti*, *interfici*, *nollent*, and give the principal parts.

(c) What is the case of *quos*, *sese* (before *interfici*), and *hominum*. Give the reason for the case.

(d) *proficiscens*. Can the present participle be used in Latin precisely as it is used in English? Explain.

(e) What is the subject of *defenderent*? Why is it expressed here?

(f) *auxilio*. Express this in Latin by means of a clause.

2. (a) Translate into idiomatic English:—

Nostri acriter in eos impetu facto reppulerunt neque finem sequendi fecerunt, quoad subsidio confisi equites, cum post se legiones viderent, praecipites hostes egerunt, magnoque eorum numero interfecto neque sui colligendi neque consistendi aut ex essedis desiliendi facultatem dederunt. Ex hac fuga protinus, quae undique convenerant, auxilia discesserunt, neque post id tempus umquam summis nobiscum copiis hostes contenderunt.

[OVER]

(b) Parse *reppulerunt, sequendi, confisi, egerunt*.

(c) What is the case of *consistendi, quae* and *copiis*. Give the reason for the case.

(d) *magnoque eorum numero interfecto*. Express this in Latin by means of (i) a *cum*-clause, (ii) a *ubi*-clause.

B.

3. Translate into Latin:—

(a) When the war against the Germans was ended, Caesar received instructions from the senate to return to Rome within ten days.

(b) On receiving these instructions from the messengers Caesar asked them if the senate ordered him to leave the army in winter-quarters.

(c) The messengers' reply to this was that he must leave (use *gerundive*) the army in Gaul.

(d) Fearing that the Germans would renew the war in his absence, Caesar ordered Labienus to keep the soldiers in camp and not to fight the enemy unless he were attacked.

(e) After Caesar's departure Labienus called the soldiers together and spoke as follows: "Soldiers, we ought always to obey our commander-in-chief. Fortify the camp at once, therefore, with a rampart and collect as large a supply of corn as possible." (*Use indirect discourse.*)

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JUNIOR MATRICULATION.

FRENCH AUTHORS, GRAMMAR AND SIGHT TRANSLATION.

Examiners: { J. H. CAMERON, M.A.
J. N. DALES, M.A.
L. E. HORNING, PH.D.

A.

1. Translate into English:—

Brusquement, une fanfare éclate à pleins cuivres, à pleins poumons. C'est beau, la musique ! Élèves, parents, jusqu'au petit malade, tout le monde applaudit.

Attention, maintenant !

Le frac brodé d'argent se lève, un chiffon de papier roulé sur le doigt....le discours. On n'entend pas un mot, rien qu'un chantonement aigu, berçant, monotone.

C'est curieux comme, à distance, un sous-préfet qui parle peut faire l'effet d'un moucheron qui siffle.

Le frac brodé d'argent s'assied ; une robe noire se lève : un long, chauve, avec un fort cahier à la main. Il ne siffle pas, celui-ci, il bourdonne. Telle une grosse mouche. Des phrases d'une lieue, des périodes, d'une heure ; un sermon.

Du coup, la mère s'est endormie.

Tiennet, lui, s'impatiente.

Aura-t-il, n'aura-t-il pas le prix du thème latin ?

2. Translate into English:—

(a) Ils bavardent, et d'en bas, de l'estrade dressée en plein air, une rumeur monte ; des pas se précipitent ; des crosses de fusil sonnent sur le pavé de la cour.

(b) Je lui mis dans la main les quinze sous de ma semaine, et il me fit écrire un billet de vingt-cinq sous pour le surplus. Oh ! le scélerat !

(c) La chèvre blanche, à moitié soûle, se vautrait là dedans les jambes en l'air et roulait le long des talus, pêle-mêle avec les feuilles tombées et les châtaignes.

[OVER]

(d) Aujourd'hui c'est votre dernière leçon de français. Je vous prie d'être bien attentifs. Ces quelques paroles me bouleversèrent. Ah ! les misérables voilà ce qu'ils avaient affiché à la mairie.

(e) Qu'y a-t-il de plus faible que le passereau, et de plus désarmé que l'hirondelle ? Cependant quand paraît l'oiseau de proie, les hirondelles et les passereaux parviennent à le chasser, en se rassemblant autour de lui.

3. Translate into English :—

Le vase où meurt cette verveine
D'un coup d'éventail fut fêlé;
Le coup dut effleurer à peine.
Aucun bruit ne l'a révélé.

Mais la légère meurtrissure,
Mordant le cristal chaque jour,
D'une marche invisible et sûre
En a fait lentement le tour.

4. Write the past definite in full, the first person plural of the present and future indicative and the third singular imperfect subjunctive of each of the verbs: *s'endormir*, *aura*, *entend*, *peut*, *s'assied*, *mis*, *roulait*, *paraît*, *parviennent*, *écrire*.

5. Give the masculine singular, masculine plural, and feminine plural forms for the French adjectives meaning:—nice, dear, false, ripe, big, tall, long, happy, bad, fine, pretty, rich, cold, poor, dry.

B.

6. Translate into English :—

BOLINGBROKE, *avec ironie*. Grâce au ciel ! la voix du sang agit enfin ! et vous voilà à merveille avec votre parente ! . . . cela me donne de l'espoir pour moi !

LA DUCHESSE, *de même*. En effet, vous m'avez prédit qu'un jour nous finirions par nous aimer . . .

BOLINGBROKE, *galamment*. J'ai déjà commencé ! et vous, madame ?

LA DUCHESSE. Je n'en suis encore qu'à l'admiration pour votre adresse et vos talents.

BOLINGBROKE. Vous pourriez ajouter pour ma loyauté . . . j'ai tenu fidèlement toutes mes promesses de l'autre jour !

LA DUCHESSE. Et moi, les miennes ! j'ai nommé la personne avec qui vous étiez tout à l'heure en tête-à-tête, et la voilà placée, par vous, près de la reine, pour épier mes desseins et servir les vôtres.

BOLINGBROKE. Comment vous rien cacher ? vous avez tant d'esprit !

LA DUCHESSE. J'ai eu au moins celui de déjouer vos tentatives, et miss Abigail, qui, d'après vos ordres, a voulu faire inviter ce soir le marquis de Torcy....

BOLINGBROKE. J'ai eu tort....ce n'était pas à elle....c'est à vous, madame, que je devais m'adresser....et je le fais....
(*S'approchant de la table et y prenant une lettre imprimée.*)
Voici des lettres d'invitation, que vous, surintendante de la maison royale, avec seule le droit d'envoyer....et je suis persuadé que vous me rendrez ce service....

LA DUCHESSE, *riant*. Vraiment, milord!....un service.... à vous ?

BOLINGBROKE. Bien entendu qu'en échange je vous en rendrai un autre plus grand encore....c'est notre seule manière de traiter ensemble ! Tout l'avantage pour vous....deux cents pour cent de bénéfice....comme pour mes dettes.

C.

7. Translate into English :—

La conversation avec Bruno devint plus libre et plus amicale. Ses explications ne permirent bientôt plus de se tromper sur sa véritable position : l'oncle d'Amérique revenait bien aussi pauvre qu'il était parti. En déclarant à son neveu que lui et les siens se repentiraient de leur froideur, il n'avait pensé qu'aux regrets qu'ils devaient éprouver tôt ou tard d'avoir méconnu un bon parent ; tout le reste était une induction de Martin.

Bien que cette découverte détruisît définitivement les espérances de la mère et de la fille, elle ne changea rien à leurs manières. Toutes deux, gagnées de coeur à l'oncle Bruno, lui conservèrent par choix la bienveillance qu'elles lui avaient d'abord témoignée par intérêt, et l'entourèrent, à l'envi, des prévenances les plus affectueuses.

8. Translate into English :—

La foule, attentive et joyeuse, applaudissait les exercices des patineurs costumés avec élégance et portant les insignes et les couleurs de leurs clubs, lorsque tout à coup retentit un cri de détresse suivi d'une immense clameur. La couche de glace la plus éloignée du bord avait cédé sous le poids des promeneurs, de plus en plus nombreux, et trois d'entre eux venaient d'être précipités dans les flots.

En un moment les patineurs furent sur le lieu du désastre, Octave devança tous ses compagnons. Se jetant à plat ventre sur la glace, il se rapprocha en rampant de l'ouverture béante, et réussit à saisir un bras qui s'élevait sur les flots comme pour un suprême appel. Doucement il attira à lui le corps d'une jeune fille et ses compagnons le tirèrent lui-même en arrière. De la même manière il sauva les deux autres et les présenta à leurs parents.

Department of Education, Ontario.

Annual Examinations, 1910.

JUNIOR MATRICULATION.

FRENCH COMPOSITION.

Examiners: { J. H. CAMERON, M.A.
J. N. DALES, M.A.
L. E. HORNING, PH.D.

A.

Translate into French :—

1. We saw pebbles and sand in the water (plur.) of the river.
2. In Canada we (*nous*) eat a great deal of fruit in the month of September.
3. I am sure he asked for ripe apples ; these are green ones.
4. The weather has been very warm, and the little flowers need water.
5. We have none, but we should like to have some to-morrow.
6. Fifteen sous make seventy-five centimes ; you multiply by five.
7. Do you know what day of the month this is ? Isn't it the sixteenth ?
8. Which amusement do you like best, to go riding on horse-back or on a bicycle ?
9. If one has books enough, one can amuse oneself reading.
10. When I told him who I was, and what I wanted, he came at once.
11. It was easy enough to shut the city gate when there was no wind.
12. When I used to know Henry, he did not know [how] to brush his hair.
13. Do they want us to stay in the country till the autumn ?
14. The little bird said, "Open the window for me, I beg you ; I am very hungry."
15. She bought several hats in that shop, and she paid very high for them.
16. How old was she when she stopped going to school ?
17. What a large apple ! Who has given it to you ?
18. What are you going to do to-day ?—I do not know yet.

[OVER]

19. What is a plum-tree?—It is a fruit tree.
20. How many goats had Mr. Seguin lost on the mountain?
21. Whose is that building on the other side of the road?
22. There is one Montreal in Canada, and two others in France.
23. The marquis owed (imperf.) me the half of what he had received.
24. If people tried to learn that language, they would not find it difficult.

B.

Translate into French the following words, using none but the so-called “irregular” verbs:—

1. They will come, they will make, they will go away; you say, you read, you believe, you drink; he owes, he knows, he writes.

2. We have taken, we have feared, we have cooked, we have drunk, we have slept, we have held, we have known, we have lived, we have opened, we have seen.

C.

Translate into French:—

One of my old friends, Henry Duval, spent a month at our house in the country, last summer. We are not very early risers¹. One morning, however, we got up before three o'clock. First of all, we plunged² into the cool water of the lake. Then we dressed³ very quickly, and breakfasted. At a quarter to four we set out for a high hill from which⁴ we wished to see the sun rise.

Before arriving at the foot of the hill, we had to pass through⁵ a dark wood. We did not see (there) many wild animals, but there were quantities of mosquitoes⁶ which stung⁷ us on the faces and hands.

We walked so fast that we reached⁸ the top⁹ of the hill before the sun was up, but after¹⁰ some minutes, we saw the edge¹¹ of the sun appear slowly, as if it were coming¹² out of the lake.

We looked at this beautiful sight for half an hour; then we left the hill, descending by an easier road, which led us home in an hour and a half. We were not tired, but we were hungry enough to eat a second breakfast.

- | | |
|---|------------------------------|
| 1. “To be an early riser,” <i>être matineux</i> . | 7. <i>piquer</i> . |
| 2. <i>se plonger</i> . | 8. <i>atteindre</i> . |
| 3. Reflexive. | 9. <i>sommet, m.</i> |
| 4. Trans., “from where”. | 10. Trans., “at the end of.” |
| 5. “To pass through,” <i>traverser</i> . | 11. <i>bord, m.</i> |
| 6. <i>moustique, m.</i> | 12. Indicative. |

Department of Education, Ontario.

Annual Examinations, 1910.

JUNIOR MATRICULATION.

GERMAN AUTHORS, GRAMMAR, AND SIGHT TRANSLATION.

Examiners: { J. H. CAMERON, M.A.
J. N. DALES, M.A.
L. E. HORNING, PH.D.

A.

1. Translate into English :—

(a) Der Lazzarone schläft unter dem Bogengange, dessen Fußboden früher nur der vornehmste Adel betreten durfte.

(b) Plötzlich vernahmen sie ein lautes Summen. Ein Goldkäfer, der draußen auf dem Hollerbaum gefressen haben mochte, hatte sich in's Zimmer verirrt.

(c) „ „Willst, feiner Knabe, du mit mir gehn,
Meine Töchter sollen dich warten schön;
Meine Töchter führen den nächtlichen Reihn,
Und wiegen und tanzen und singen dich ein.“ „

2. Translate into English :—

Es möchte sich nieder neigen
In spiegelklare Flut,
Es möchte streben und steigen
In der Abendwolken Glut.

„Wohl hab' ich es gesehen,
Das hohe Schloß am Meer,
Und den Mond darüber stehen
Und Nebel weit umher.“

3. Give with the definite article the nominative singular of Flut, Abendwolken, Schloß, Meer, Mond, Nebel.

[OVER]

B.

4. Translate into English :—

Er fuhr zwei Jahre in der Welt umher und schaute aus seinem Wagen links und rechts an den Häusern hinauf, schaute, wenn er anhielt, nichts als das Schild seines Wirtshauses an, lief dann in der Stadt umher, und liess sich die schönsten Merkwürdigkeiten zeigen. Aber es freute ihn nichts, kein Bild, kein Haus, keine Musik, kein Tanz, sein Herz von Stein nahm an nichts Anteil, und seine Augen, seine Ohren waren abgestumpft für alles Schöne. Nichts war ihm mehr geblieben als die Freude am Essen und Trinken und der Schlaf, und so lebte er, indem er ohne Zweck durch die Welt reiste, zu seiner Unterhaltung speiste und aus Langeweile schlief. Hie und da erinnerte er sich zwar, dass er fröhlicher, glücklicher gewesen sei, als er noch arm war und arbeiten musste, um sein Leben zu fristen. Da hatte ihn jede schöne Aussicht in's Tal, Musik und Gesang hatten ihn ergötzt, da hatte er sich stundenlang auf die einfache Kost, die ihm die Mutter zu dem Meiler bringen sollte, gefreut. Wenn er so über die Vergangenheit nachdachte, so kam es ihm ganz sonderbar vor, dass er jetzt nicht einmal lachen konnte, und sonst hatte er über den kleinsten Scherz gelacht.

5. Write the genitive singular and nominative plural of *Häusern, das Schild, Augen, Herz, Tal, Freude, Mutter, Meiler, Stadt, Jahr*.

6. Give the second person singular imperative of *anhielt, liess, gewesen, nachdachte, kam vor*.

7. Give the third person singular perfect subjunctive of *geblieben, schlief, bringen, gewesen*.

8. Give the dative singular and the genitive plural of *wir, euch, ihnen*.

9. Translate into English :—

„Gegrüßet seid mir, edle Herrn,
Gegrüßt ihr, schöne Damen!
Welch reicher Himmel! Stern bei Stern
Wer kennet ihre Namen?
Im Saal voll Pracht und Herrlichkeit
Schließt, Augen, euch; hier ist nicht Zeit,
Sich staunend zu ergötzen.“

10. Reproduce the substance of the ballad from which the above is taken.

11. Translate into English :—

Das war ein lustiger Ritt. Hans sass so sicher und fest im Sattel, als ob er statt eines Rosses die gewohnte Schulbank unter sich gehabt hätte. Wenn er daran dachte, dass er noch vor einer Stunde beim Cornelius Nepos geseufzt und vor dem Doktor Schlagentzwei gezittert habe, musste er lachen. Der kleine Schulknabe in dem kurzen Jäckchen war zum stattlichen Rittersmann geworden mit Koller und Mantel, Schwert und Goldsporen. So flog er hin durch den Zauberwald.

C.

12. Translate into English :—

Die Reise von Freiburg in das Gebirge machten wir zu Fusz. Wir marschierten am Sonntag Morgen sehr früh aus der Stadt. Wir hatten herrliches Wetter : die Lust war frisch und kühl und der Himmel klar. Mehr als vier Stunden gingen wir durch grüne Felder, schöne Gärten und schattige Wälder. Rote Äpfel, gelbe Birnen und süsse saftige Beeren grüssten uns auf allen Seiten, und überall hörten wir den Gesang der Vögel. Um neun Uhr des Morgens machten wir halt und ruhten bis drei Uhr, und um sechs Uhr erreichten wir den See, wo wir kampieren. Es ist ein Hotel hier, wo wir essen, aber wir wohnen in Zelten, nach amerikanischer Art.

13. Translate into English :—

Es war ein alter König,
Sein Herz war schwer, sein Haupt war grau ;
Der arme, alte König,
Er nahm eine junge Frau.

Es war ein schöner Page,
Blond war sein Haupt, leicht war sein Sinn ;
Er trug die seidne Schleppe
Der jungen Königin.

Kennst du das alte Liedchen ?
Es klingt so süß, es klingt so trüb !
Sie mussten beide sterben,
Sie hatten sich zu lieb.

Department of Education, Ontario.

Annual Examinations. 1910.

JUNIOR MATRICULATION.

GERMAN COMPOSITION.

Examiners : { J. H. CAMERON, M.A.
J. N. DALES, M.A.
L. E. HORNING, PH.D.

A.

1. Give the German for :—strong, clear, yellow, the watch, long, different, wet, to pay, to hold, to sit, to sell, deep, her heart.

2. Give the German for :—he thinks, she called, he is staying, we pulled, it is lying, he made, she was throwing, he falls, he played, she asked ; named, known, struck, born, described.

3. Give the German for :—no answer, high trees, black water, rich merchants, poor souls !

B.

Translate into German :—

1. He came yesterday at nine.
2. He heard a voice behind him.
3. The forest grew thicker and darker.
4. It will be warm to-morrow, I believe.
5. Jack was still younger than Annie.
6. He saw a small dog not far in front of the door.
7. There sat the old man with a red cap on his head.
8. You will be happy for a couple of years at least.
9. We will see if your second wish is better !
10. Peter quickly drew a knife out of his pocket.
11. She was throwing the money away to the poor standing around her.
12. One evening he noticed that his friends had a great deal of money.
13. Lisbeth's father was very much astonished to see the strange man enter his house.

[OVER]

14. They talked of the fine weather, the war, the stars, and of those who had died suddenly.
15. Now his heart was beating with joy, for he should see his mother and his wife again.
16. He ought to and must do his work every day, if he wishes to learn the German language.
17. She cannot speak German, and she will not try, because she says she will never go to Germany.
18. Do you live in the country, or in a village, or in a large town where the streets are narrow and dusty?
19. He was sad although it was a beautiful summer day, because the princess would not leave her castle.
20. The minstrel did not want the chain which the king was going to give him, but he asked for a glass of wine.

C.

Translate into German:—

Can you tell me the story of the little boy who smoked his first pipe in a garden behind a tavern? When did it happen? On a hot summer afternoon! Quite right. And how old was the young gentleman? About thirteen? Are you sure? Wasn't he a little older? Yes, fourteen years old. And did he have anything to drink? Beer, of course! And did he have a good time? He saw a very pretty little brown maiden! Do you know what her name was? Nicotiana! And why had she come into the garden? Her father had sent her to invite the boy to appear before his throne! And did he go? His pipe was his horse! Could it travel fast? So fast, that the little fellow got ill! Poor little fellow!

Department of Education, Ontario.

Annual Examinations, 1910.

JUNIOR MATRICULATION.

GREEK AUTHORS AND GRAMMAR.

Examiners: { A. CARRUTHERS, M.A.
G. W. MITCHELL, M.A.
E. T. OWEN, M.A.

A.

1. Translate into English:—

"Ἐπειτα δὲ ἀναμνήσω ὑμᾶς τὰς τῶν προγόνων τῶν ἡμετέρων ἀρετὰς, ἵνα εἰδῆτε ὡς προσήκει ὑμῖν εἶναι ἀγαθοῖς. ἐλθόντων γὰρ Περσῶν παμπληθεὶ στόλῳ ἐπὶ τὰς Ἀθήνας, οἱ Ἀθηναῖοι πρῶτον τολμήσαντες ἐνίκησαν αὐτούς. ἔπειτα, ὅτε Ξέρξης ὕστερον ἦλθεν ἐπὶ τὴν Ἑλλάδα, καὶ τότε οἱ ἡμέτεροι πρόγονοι ἐνίκων τοὺς τούτων προγόνους καὶ κατὰ γῆν καὶ κατὰ θάλατταν. οὕτω δὲ καὶ ὑμεῖς ἀντιταξάμενοι ἄρτι τοῖς ἐκείνων ἐκγόνοις ἐνικᾶτέ αὐτοὺς σὺν τοῖς θεοῖς. καὶ τότε μὲν δὴ περὶ τῆς Κῦρου βασιλείας ἦτε ἄνδρες ἀγαθοί. νῦν δὲ, ἐπεὶ περὶ τῆς ὑμετέρας σωτηρίας δεῖ μάχεσθαι, προσήκει ὑμᾶς εἶναι πολὺ καὶ ἀμείνονας καὶ προθυμότερους.

2. Is it necessary to have τῶν expressed twice in the first line of the above extract?

3. Account for the mood of εἰδῆτε (l. 2).

4. Account for the case of ὑμῖν (l. 2), and ὑμᾶς (l. 10).

5. Account for the case of Περσῶν (l. 3) and give the vocative singular.

6. ἐλθόντων γὰρ Περσῶν. Express this in Greek by means of a *when*-clause.

7. What is the case of Ἑλλάδα (l. 5)? Why does ἐπὶ govern this case here? What other cases may ἐπὶ govern?

8. προθυμότερους (l. 11). Can you tell by examining this word whether the υ is long or short? Explain.

[OVER]

B.

9. Translate into English :—

τὴν δ' ἡμείβετ' ἔπειτα μέγας κορυθαίολος Ἴκτωρ
 “ μή μοι οἶνον ἄειρε μελίφρονα, πότνια μήτερ,
 μή μ' ἀπογυιώσῃς, μένεος δ' ἀλκῆς τε λάθωμαι.
 χερσὶ δ' ἀνίπτοισιν Διὶ λείβειν αἴθοπα οἶνον
 5 ἄζομαι· οὐδέ πη ἔστι κελαινεφεί Κρονίωνι
 αἵματι καὶ λύθρῳ πεπαλαγμένον εὐχετάασθαι.
 ἀλλὰ σὺ μὲν πρὸς νηὸν Ἀθηναίης ἀγελείης
 ἔρχεο σὺν θυέεσσιν, ἀολλίσσασα γεραιάς·
 πέπλον δ'. ὅς τις τοι χαριέστατος ἡδὲ μέγιστος
 10 ἔστιν ἐνὶ μεγάρῳ καὶ τοι πολὺν φίλτατος αὐτῇ,
 τὸν θεὸς Ἀθηναίης ἐπὶ γούνασιν ἠνκόμοιο,
 καὶ οἱ ὑποσχέσθαι δυοκαίδεκα βούς ἐνὶ νηῷ
 ἦνις ἡκέστας ἱερευσέμεν, αἶ κ' ἐλεήσῃ
 ὅστυ τε καὶ Τρώων ἀλόχους καὶ νήπια τέκνα.

10. Account for both the mood and tense of ἀπογυιώσῃς.

11. Parse πεπαλαγμένον (l. 6), ἔρχεο (l. 8), ὅς (l. 9), θεός (l. 11), οἱ (l. 12), ὑποσχέσθαι (l. 12).

12. αὐτῇ (l. 10). When has this word the meaning it has here? Give other meanings.

13. ἱερευσέμεν (l. 13). What part of the verb is this? Account for the tense.

14. αἶ κ' ἐλεήσῃ (l. 13). Write this in Attic Greek and explain the syntax.

15. Write short notes on the proper names in the above extract.

Department of Education, Ontario.

Annual Examinations, 1910.

JUNIOR MATRICULATION.

GREEK ACCIDENCE, SYNTAX, AND SIGHT TRANSLATION.

Examiners: { A. CARRUTHERS, M.A.
G. W. MITCHELL, M.A.
E. T. OWEN, M.A.

1. Name the case of the following nouns, and decline in full :— νυκτί (fem.), στρατιώτας (masc.), ἡγεμόνα (masc.), ἀσπίδα (fem.), τάξιν (fem.), ὄρους (neut.).

2. Give the nominative singular in all genders of the following adjectives :—

πάντας, and decline in the neuter ;
πολλήν, and decline in the masculine ;
ἡδύν, and decline in the masculine ;
εὐδαίμονα, and decline in the feminine.

3. Name the following verb forms, and give the whole of the tense in the same mood and voice of any six :— ἦτιᾶτο, ἀπεκρίναντο, ἐτάχθησαν, ἀφίκοντο, γένοιτο, ἔγνωσαν, ἀνίσταται, δύναιτο, ληφθῶμεν.

4. Without translating the sentences, explain the syntax of the underlined words in the following :—

(a) Ἐγὼ οἶδα ὅρκους ἡμῖν γεγεννημένους, μὴ ἀδικήσει ἀλλήλους.

(b) εἶπε δὲ ὅτι, ἐπεὶ τάχιστα ἡ στρατεία λήξειεν, ἀποπέμψοι αὐτὸν οἰκάδε.

(c) δέδοικα μὴ ἐπιλαθώμεθα τῆς οἰκάδε ὁδοῦ, ἐὰν μάθωμεν ζῆν ἀργοί.

(d) τοῦ Ξενοφώντος ἐρωτῶντος τί κωλύοι αὐτοὺς εἰσελθεῖν, ὁ Χειρίσοφος εἶπεν τάδε.

(e) ἔξεστιν ἡμῖν ἰέναι νυκτὸς ὥστε μὴ ὀρᾶσθαι.

[OVER]

5. Translate into English :—

Ἐντεῦθεν πέμπουσι τὸν Ξενοφῶντα καὶ σὺν αὐτῷ οἱ ἐδόκουν ἐπιτηδείοτατοι εἶναι· ὁ δὲ ἐλθὼν λέγει πρὸς τὸν Σεύθην· οὐδὲν ἀπαιτήσων, ὦ Σεύθη, πάρειμι, ἀλλὰ διδάξων, ἐὰν δύνωμαι, ὥς οὐ δικαίως μοι ἡχθέσθης ὅτι ὑπὲρ τῶν στρατιωτῶν ἀπήτουν σε προθύμως ἂν ὑπέσχου αὐτοῖς· σοι γὰρ ἔγωγε οὐχ ἥττον ἐνόμιζον συμφορον εἶναι ἀποδοῦναι ἢ ἐκείνοις ἀπολαβεῖν. πρῶτον γὰρ οἶδα μετὰ τοὺς θεοὺς σε τούτους νομίζοντας, ἐπεὶ βασιλέα σε ἐποίησαν πολλῆς χώρας καὶ πολλῶν ἀνθρώπων.

ἐπιτήδειος—suitable.

ἄχθομαι—be annoyed.

Department of Education, Ontario.

Supplemental Examinations, 1910.

JUNIOR MATRICULATION.

HISTORY.

Examiners: { W. J. ALEXANDER, PH.D.
E. J. KYLIE, M.A.
J. F. MACDONALD, M.A.

PART A.—BRITISH AND CANADIAN.

1. Discuss the work, character, and success of *either* Edward the First, *or* Warren Hastings.
2. Describe the relations between England and Ireland from 1763 to 1801.
3. Draw a map showing the present boundary-line between the United States and Canada, and describe the treaties and negotiations from 1782 which determined the boundary-line.
4. Write notes on Governor Murray, Sir Isaac Brock, Papi-neau, Joseph Howe, Sir John A. Macdonald.

Department of Education, Ontario.

Supplemental Examinations, 1910.

JUNIOR MATRICULATION.

HISTORY.

Examiners : { W. J. ALEXANDER, PH.D.
E. J. KYLIE, M.A.
J. F. MACDONALD, M.A.

PART B.—ANCIENT.

1. Discuss the character and influence of Themistocles.
2. (a) Where and what and for what noted are Troy, Ithaca, Olympus, Piraeus, Mitylene?
(b) Draw a map of Sicily. Mark on it places of importance in Roman history.
3. Write notes on the Gracchi, Marius, Brutus, Mark Antony.
4. *Either*
Give the causes of the Peloponnesian War, and the reasons for the victory of Sparta;
or
Describe the conquest of Italy by Rome to 272 B.C.

Department of Education, Ontario.

Supplemental Examinations, 1910.

JUNIOR MATRICULATION.

EXPERIMENTAL SCIENCE.

Examiners : { F. B. ALLAN, PH.D.
W. C. BAKER, M.A.
R. W. SMITH, PH.D.

PHYSICS.

NOTE.—*The candidate shall answer either Sections A. and B.,
or Sections A. and C.*

A.

1. (a) What is meant by the absolute temperature of a body?
(b) The melting point of mercury is -40°C . Express this in terms of the absolute centigrade scale.
(c) Express the melting point of mercury in terms of the absolute Fahrenheit scale.

2. A long metal tube passes vertically through a much larger tube so arranged that cold water may be circulated through the space between the two tubes. Steam from a flask of boiling water is condensed in the inner tube, and drips into a beaker at its lower end. If 200 cc. of cold water flow through the space between the tubes each minute,—entering at a temperature of 12°C . and leaving at 18° —how many grams of distilled water at 97° will drop into the beaker in five minutes?

Take the latent heat of vaporization of water as 537.

3. A small brass stand of 100 grams mass is found to be “top heavy.” To remedy this, 80 grams of molten lead at its melting point are poured into a recess in the base of the stand. Calculate the highest temperature that the stand acquires during the operation, assuming that the heat is uniformly distributed. Take melting point of lead as 330°C ; latent heat of fusion of lead as 5.8; specific heat of lead 0.03; specific heat of brass 0.09; atmospheric temperature 15°C .

[OVER]

B.

4. (a) Give two experiments showing the buoyancy of the air.
(b) Does the buoyancy of a gas depend on its pressure? Give reasons.

5. Write short notes on each of the following :—

- (a) The conservation of matter.
- (b) Boyle's law.
- (c) Diffusion of gases.
- (d) The law of transmission of pressure. (Pascal's principle.)

6. A cylindrical buoy 2 feet in diameter and 6 feet long is anchored half immersed in an ocean harbour. If the mass of the buoy be 500 lbs., and if the density of sea water be 1.03, find the force the buoy exerts on its anchor chain.

C.

7. (a) Explain how it is that the series of notes obtainable from a stopped organ-pipe differs from that obtainable from an open pipe.

(b) What is meant by :—Vibration frequency, Period, Amplitude, Wave length.

8. (a) Explain why the shadows cast by a bare arc lamp are so much sharper than those cast by the sun.

(b) Illustrate by drawings, a real image formed by a convex lens, and a virtual image formed by the same lens.

9. A copper wire ten metres long and 2 mm. in diameter has a resistance of 0.04 ohms. This wire is drawn out until its diameter is reduced to 0.2 mm. Assuming that no metal has been lost in the drawing, and that the specific resistance is unchanged, find the resistance of the wire in its new form.

Department of Education, Ontario.

Supplemental Examinations, 1910.

JUNIOR MATRICULATION.

EXPERIMENTAL SCIENCE.

Examiners: { F. B. ALLAN, PH.D.
W. C. BAKER, M.A.
R. W. SMITH, PH.D.

CHEMISTRY.

1. Give the name of the substance represented by each of the following formulae:— SCl_2 , NH_4NO_3 , KClO_3 , $(\text{NH}_4)_2\text{CO}_3$, N_2O , $(\text{NH}_4)_2\text{SO}_3$, H_2O_2 .

2. Describe a laboratory method of preparing (a) ammonia gas, (b) oxygen, (c) hydrogen chloride. Each description should include the method of collecting the gas and a diagram of the apparatus.

3. Represent by a formula the composition of a solution obtained by dissolving 36.5 grammes of hydrogen chloride in 180 grammes of water. Why is the composition of a solution seldom represented by a formula? ($\text{H}=1$, $\text{Cl}=35.5$, $\text{O}=16$)

4. What are the principal components of the atmosphere in addition to the oxygen and nitrogen? Describe experiments which would prove the presence of these additional components.

5. What is the Law of Multiple Proportions? Illustrate by reference to the following data:—

There are two compounds of oxygen and sulphur, the first containing 50% of sulphur and 50% of oxygen and the other containing 40% of sulphur and 60% of oxygen.

There are two compounds of iron and bromine, the first containing 25.9% of iron and 74.1% of bromine and the other containing 18.9% of iron and 81.1% of bromine.

6. Explain what is meant by the following terms:— (a) a chemical compound, (b) a solution, (c) a sulphide, (d) an acid, (e) a chemical equation.

7. What is a "mechanical mixture"? Illustrate by reference to a mixture of sand and salt which has been finely ground and thoroughly mixed.

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JUNIOR MATRICULATION.

ARITHMETIC AND MENSURATION.

Examiners: { A. T. DeLury, M.A.
W. Findlay, Ph.D.
W. J. Patterson, M.A.

1. (a) Find the number of bushels contained in a bin $7' \times 6' \times 6'$, given that 1 gallon = 277.118 cu. in., contracted methods preferred.

(b) What is the rate per cent imposed by a British tax of 2d per pound?

2. A commission merchant sold farm produce for his customer on a commission of 2% and purchased supplies with the proceeds on a commission of $1\frac{1}{2}\%$. If the total commission for the year amounted to \$150 what was the total value of the produce sold?

3. A note for \$2000 is due in 60 days, and bears 7% interest. If \$800 be paid in 30 days and \$400 in 50 days, what interest is payable when the note falls due?

4. Six metal cylinders, each 7 inches in diameter and 4 inches long, are moulded out of a bar 12 inches long, 10 inches wide, and 9 inches thick. What fraction of the metal remains?

5. A medical preparation is made up as follows:—25% of a drug costing 2 cents an ounce, 4% of a drug costing 75 cents an ounce, 10% of a substance costing 15 cents an ounce, and the remainder costing one cent an ounce. Find the percentage of profit obtained by selling the preparation at 10 cents an ounce.

6. What sum should be paid for a \$2000 mortgage which has three years to run and pays four per cent, in order that the investor may make five per cent?

7. A steam plow turns over eight ten-inch furrows at a time and travels at the rate of two miles an hour. An allowance of $4\frac{1}{2}$ minutes each trip must be made for turning and taking on fuel and water. How many acres will it plow in ten hours working in a field 20 chains long?

[OVER]

8. (a) In a canvass during a local option campaign the temperance party ascertains that there are 700 voters in favor of local option and 484 opposed. Assuming that all will vote, how many must they win over in order to secure three-fifths of the total vote cast?

(b) A customer learns that a merchant marks his goods at an advance of 15% upon the cost price and succeeds in inducing the merchant to give him a discount of 10%. If the merchant's profit on the transaction is \$1.40, find the cost price, the marked price, and the selling price.

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JUNIOR MATRICULATION.

ENGLISH GRAMMAR AND RHETORIC.

Examiners: { W. J. ALEXANDER, PH.D.
E. J. KYLIE, M. A.
J. F. MACDONALD, M.A.

One is tempted *to say* that the most human plants, *after all*, are the weeds. How they cling to man, and follow him around the world, and spring up wherever he sets his foot! How they crowd around his barns and dwellings, and throng his garden, and jostle and override each other in their strife to be near *him*! Some of them are so domestic and familiar, and so harmless *withal*, that one comes to regard them with positive affection. Motherwort, catnip, plantain, tansy, wild mustard—*what* a homely human look they have! they are an integral part of every old homestead. Your smart new place will wait long before they draw *near* it. Our knot-grass, that carpets every old door-yard, and fringes every walk, and softens every path that knows the feet of children, or that leads to the spring, or to the barn, how kindly one comes to look upon it! Examine it with a pocket glass, and see how wonderfully beautiful and exquisite are its tiny blossoms. It loves the human foot, and when the path or the place is long *disused*, other plants usurp the ground.

1. Write out in full each subordinate clause in this paragraph. State clearly its grammatical value and relation.

2. Give the exact grammatical value and relation of each italicized word or phrase.

3. (a) What is the subject of the paragraph? In which sentence is it clearly stated?

(b) Show how the subject is developed throughout the paragraph.

4. "The English vocabulary is still growing." Explain why we need new words. Point out the manner in which most of these are formed, and tell the languages from which they are drawn. Give examples.

5. Tell what is meant by the following terms, and give an example of each construction:—Ethic Dative, Cognate Object, Nominative Absolute.

[OVER]

6. Improve or correct the following sentences :—

- (a) She neither saw him nor his brother.
- (b) I only got word yesterday, and will not go without you do.
- (c) He don't know how careful we are who we let in the club.
- (d) Finding him at home it was decided not to go further.
- (e) Nearly every one of the compositions that is handed in have mistakes in them.

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JUNIOR MATRICULATION.

ALGEBRA.

Examiners: $\left\{ \begin{array}{l} \text{A. T. DELURY, M.A.} \\ \text{W. FINDLAY, PH.D.} \\ \text{W. J. PATTERSON, M.A.} \end{array} \right.$

1. (a) Divide the product of

$$a^2 - ab + b^2 \text{ and } (a - 2b)(a + 2b) + 4b(a + b) + 4b^2$$

by $a + 2b$.

(b) Expand $(2a + b - c)^3$.

(c) Divide $27x^3y^6 - 343z^3$ by $3xy^2 - 7z$.

2. Find two factors for each of the following:—

(a) $ab - bc + a^2 - c^2$.

(b) $4a^4x^4 - 21a^2b^2x^2 + 9b^4$.

(c) $a^2 - 6ab + 9b^2 - 256$.

(d) $a^3 - b^3 + 8c^3 + 6abc$.

3. (a) Explain what is meant by (i) the Highest Common Factor, (ii) the Lowest Common Multiple, of two algebraic expressions.

(b) Use the expressions

$$x^3 + 2ax^2 + 4a^2x + 8a^3 \text{ and } x^3 - 2ax^2 + 4a^2x - 8a^3$$

to illustrate the fact that the Lowest Common Multiple of two algebraic expressions is equal to either expression multiplied by the quotient obtained by dividing the other expression by their Highest Common Factor.

4. (a) Find a single fraction in its lowest terms which is equal to:—

$$\frac{2}{x^2 + x} + \frac{2x - 1}{x^2 - x + 1} - \frac{2x^2 - 1}{x^4 + x} - \frac{2(x - 2)}{x^3 + 1}.$$

(b) Solve:—

$$\frac{3}{x - 1} - \frac{4}{x - 2} + \frac{1}{x - 3} = 0.$$

[OVER]

5. (a) Solve:—

$$\begin{aligned} ax + by &= p^2, \\ cx - dy &= lm. \end{aligned}$$

(b) Solve:—

$$\begin{aligned} 2x - y &= 12, \\ 3x - 4z &= 36, \\ 2y - z &= 11. \end{aligned}$$

6. (a) Divide $a^{\frac{4}{5}} - b^{-\frac{4}{5}}$ by $a^{\frac{1}{5}} + b^{-\frac{1}{5}}$.

(b) Find the value of $\left(x^{\frac{2}{3}}\right)^{-\frac{3}{4}} - \left(y^{-\frac{4}{5}}\right)^{\frac{5}{2}}$, when $x=9$, $y=3$.

7. (a) Extract the square root of:—

$$2a - 2\sqrt{(a^2 - b^2)}.$$

(b) Give the full solution of the equation:—

$$4ax^2 + bx + c = 0.$$

8. (a) If a and b are the roots of the equation

$$2lx^2 + 2mx + n = 0,$$

find the value of (i) $a+b$, (ii) ab , in terms of l , m , and n .

(b) Form the equation whose roots are greater by $\frac{3}{2}$ than the roots of the equation $3x^2 + 5x - 2 = 0$.

9. A dealer spent a certain sum of money in buying 72 dozen eggs at a certain price per dozen. If he had spent half the sum in buying eggs at 5 cents more per dozen, and the balance in eggs at 5 cents less per dozen, he would have obtained 3 dozen more than he actually did. What price did he pay for the eggs?

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JUNIOR MATRICULATION.

ENGLISH COMPOSITION.

Examiners: { W. J. ALEXANDER, PH.D.
E. J. KYLIE, M.A.
J. F. MACDONALD, M.A.

NOTE.—*The candidate must not use in his composition any name which would indicate his examination centre.*

Write a composition on *one* of the following subjects :—

1. The story of the Lady of Shalott.

(The story is to be based on what is told in the poem, but details derived from the candidate's imagination may be added.)

2. How to play football. (If preferred, tennis may be substituted for football.)

(A *general* description such as would enable a reader to understand the game, is required.)

3. An odd character.

(Description of some person actually known to the candidate.)

4. The kind of book I like.

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JUNIOR MATRICULATION.

GEOMETRY.

Examiners: { A. T. DeLury, M.A.
W. Findlay, Ph.D.
W. J. Patterson, M.A.

A.—CONSTRUCTIONS.

1. Construct a triangle with sides of lengths 5, 6, and 7 cm. respectively; find the centre of the inscribed circle, and draw this circle; join each vertex to the point of contact of this circle with the opposite side.

Does the construction suggest anything in regard to these three lines?

2. Taking a and b as the lengths of two straight lines, give an accurately constructed geometrical representation of the formula

$$(a + b)^2 = a^2 + 2ab + b^2.$$

3. (a) From a point without a given circle draw the two tangents to the circle.

(b) Establish the method of construction employed in (a).

B.—THEOREMS.

4. If the three sides of a triangle are equal to the three sides of another triangle, the triangles are equal in all respects.

5. The vertex of an isosceles triangle is joined to the middle point of the base. Show that the joining line bisects the vertical angle.

6. If two chords of a circle intersect without the circle, the rectangle contained by the segments of the one is equal to the rectangle contained by the segments of the other, and to the square on the tangent drawn to the circle from the point of intersection.

[OVER]

7. Two circles intersect in P and Q . Show that the tangents drawn to the two circles from any point in PQ produced are equal.

8. If a straight line be drawn parallel to one side of a triangle it cuts the other sides proportionately.

9. From a point P in the base of a triangle ABC , PD and PE are drawn parallel to the sides BA and CA respectively. Show that the area of the triangle PDE is a mean proportional between the areas of the triangles BEP and CDP .

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JUNIOR MATRICULATION.

ENGLISH POETICAL LITERATURE.

Examiners: { W. J. ALEXANDER, PH.D.
E. J. KYLIE, M.A.
J. F. MACDONALD, M.A.

1. Quote *twenty* consecutive lines *either* from *Julius Caesar* or from *Morte d'Arthur*.

2. Indicate definitely to what each of the following passages applies, and in what connection it is found:—

- (a) And slipt aside, and like a wounded life
Crept down into the hollows of the wood.
- (b) In gloss and hue the chestnut, when the shell
Divides three-fold to show the fruit within.
- (c) like a wind, that shrills
All night in a waste land, where no one comes
Or hath come, since the making of the world.
- (d) All things are taken from us, and become
Portions and parcels of the dreadful past.
- (e) Till one that sought but Duty's iron crown
On that loud Sabbath shook the spoiler down.

3. Name the speaker, indicate clearly the connection of the following passages and the circumstances in which they are spoken:—

- (a) Seldom he smiles, and smiles in such a sort,
As if he mock'd himself.
- (b) A barren-spirited fellow ; one that feeds
On abjects, orts, and imitations.
- (c) For if thou path, thy native semblance on,
Not Erebus itself were dim enough
To hide thee from prevention.
- (d) When love begins to sicken and decay,
It uses an enforced ceremony.
There are no tricks in plain and simple faith.
- (e) I am as constant as the northern star,
Of whose true-fix'd and resting quality
There is no fellow in the firmament.
- (f) It is the bright day that brings forth the adder,
And that craves wary walking.

[OVER]

4. Describe the poem called *The Brook*, so that one who had never read it might know not only the story, but the plan, and what sort of poem it is.

5. Write, in good literary form, within the limits of half a page, a prose description of the locality (the village and its neighbourhood) where most of the events of *Enoch Arden* take place.

6. Outline the scene which presents the death of Caesar, from the point where he speaks to the soothsayer, to the point where Antony is left alone with the dead body.

7. Surprised by joy—impatient as the wind
 I turned to share the transport. Oh ! with whom
 But Thee, deep buried in the silent tomb,
 That spot which no vicissitude can find ?
- 5 Love, faithful Love, recalled thee to my mind—
 But how could I forget thee ! Through what power
 Even to the least division of an hour,
 Have I been so beguiled as to be blind
 To my most grievous loss ? That thought's return
- 10 Was the worst pang that sorrow ever bore
 Save one, one only, when I stood forlorn,
 Knowing my heart's best treasure was no more.
 That neither present time, nor years unborn,
 Could to my sight thy heavenly face restore.

(a) Explain, within the compass of three or four lines, the occasion of this poem,—i.e., the particular incident that leads the poet to write it.

(b) Give, in a single phrase, a title which shall indicate as adequately as possible the subject of this poem.

(c) What exactly is meant by calling the tomb “That spot which no vicissitude can find” (l. 4) ?

(d) “My most grievous loss” (l. 9). What loss ?

(e) “That thought's return” (l. 9). What thought ?

(f) “Save one” (l. 11). What one ?

(g) Describe as concisely as possible the verse structure of the poem.

(h) What is the name of poems of this structure ?

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JUNIOR MATRICULATION.

LATIN AUTHORS (VIRGIL), ACCIDENCE, AND SIGHT TRANSLATION.

Examiners: { A. CARRUTHERS, M.A.
G. W. MITCHELL, M.A.
E. T. OWEN, M. A.

A.

1. Translate:—

- Inde *lupae* fulvo *nutricis* tegmine laetus
Romulus excipiet gentem, et *Mavortia* condet
Moenia, Romanosque suo de nomine dicet.
His ego nec metas rerum nec tempora pono ;
5 Imperium sine fine dedi. Quin aspera Juno,
Quae mare nunc terrasque metu caelumque fatigat,
Consilia in melius referet, mecumque fovebit
Romanos rerum dominos *gentemque togatam*.
Sic placitum. Veniet lustris labentibus aetas,
10 Cum domus Assaraci *Phthiam* clarasque *Mycenas*
Servitio premet, ac victis dominabitur *Argis*.
Nascetur pulchra Trojanus origine Caesar,
Imperium Oceano, famam qui terminet astris,
Julius, a magno demissum nomen Iulo.
15 Hunc tu olim caelo, *spoliis Orientis onustum*,
Accipies segura ; *vocabitur hic quoque votis*.
Aspera tum positis mitescant saecula bellis;
Cana Fides, et Vesta, Remo cum fratre Quirinus,
Jura dabunt ; dirae ferro et compagibus artis
20 Claudentur *Belli portae* ; *Furor impius* intus
Saeva sedens super arma, et centum vinctus aenis
Post tergum nodis, fremet horridus ore cruento.'

2. Write brief explanatory notes on the italicized words in 1.

3. Explain the syntax of the following words in 1 :—tegmine,
(l. 1), *Argis* (l. 11), terminet (l. 13), nomen (l. 14), caelo (l. 15),
segura, (l. 16), bellis (l. 17), ore (l. 22). [OVER]

4. Name the form, and give the principal parts of:—condet, fovebit, placitum, labentibus, victis, nascetur, positus, vinctus.

5. Write out the whole of the tense in the same mood and voice of:—dicet, dominabitur, nascetur, terminet.

6. Name the case, and give the nominative singular and the gender of:—corda, viros, aequora, telluris, gurgite, laterum, arcum, cornibus.

7. Decline in the three genders the pronouns, *aliquis*, *hic*, and *ille*.

B.

8. Translate:—

Eodem die, ab exploratoribus certior factus hostes sub monte consedissee millia passuum ab ipsius castris octo, qualis esset natura montis qui cognoscerent misit. Renuntiatum est facilem esse ascensum. De tertia vigilia Titum Labienum legatum cum duabus legionibus et iis ducibus qui iter cognoverant summum iugum montis ascendere iubet. Ipse de quarta vigilia eodem itinere quo hostes ierant ad eos contendit equitatumque omnem ante se mittit. Publius Considius, qui rei militaris peritissimus habebatur et in exercitu Lucii Sullae et postea in Marci Crassi fuerat, cum exploratoribus praemittitur.

habeo—consider.

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JUNIOR MATRICULATION.

LATIN COMPOSITION, SYNTAX, AND CAESAR.

Examiners: { A. CARRUTHERS, M.A.
G. W. MITCHELL, M.A.
E. T. OWEN, M.A.

A.

1. (a) Translate into idiomatic English :—

Dum in his locis Caesar navium parandarum causa moratur, ex magna parte Morinorum ad eum legati venerunt, qui se de superioris temporis consilio excusarent, quod homines barbari et nostrae consuetudinis imperiti bellum populo Romano fecissent, seque ea, quae imperasset, facturos pollicerentur. Hoc sibi Caesar satis opportune accidisse arbitratus, quod neque post tergum hostem relinquere volebat neque belli gerendi propter anni tempus facultatem habebat neque has tantularum rerum occupationes Britanniae anteponendas iudicabat, magnum iis numerum obsidum imperat.

(b) Account for the tense of *moratur*, *excusarent*, *facturos*, *imperat*.

(c) Account for the mood of *excusarent*, *fecissent*, *facturos*, *volebat*.

(d) *Navium parandarum causa*. Rewrite this phrase in Latin, using the *gerund* construction.

(e) Account for the case of *qui*, *consuetudinis*, *se* (in *seque*), *belli*, *iis*.

2. (a) Translate into idiomatic English :—

Erat una cum ceteris Dumnorix Aeduus, de quo ante ab nobis dictum est. Hunc secum habere in primis constituerat, quod eum cupidum rerum novarum, cupidum imperii, magni animi, magnae inter Gallos auctoritatis cognoverat.

[OVER]

(b) Give the principal parts of all the verbs of the third conjugation in the above extract.

(c) *dictum est*. What is the subject? Express the same idea by means of the Active Voice.

(d) *secum*. When is *cum* written after its case?

(e) Account for the case of *hunc*, *eum*, *rerum*, *animi*, *magnae*.

B.

3. Translate into Latin:—

(a) Caesar did not doubt that Ariovistus intended to approach the Rhine that year, because he had heard that the Germans were short of supplies.

(b) Fearing they might ravage Gaul, he sent ambassadors to the German king to ask his intentions.

(c) Ariovistus ordered the ambassadors to go back to Caesar, and tell him that the authority (*imperium*) of the Roman people ended at the Rhine.

(d) To this Caesar's reply was: "If you approach the Rhine, I shall consider you an enemy to Rome. Remain therefore in your own territory, and order your allies to do the same." (*Use indirect discourse.*)

(e) Caesar knew that Ariovistus was not to be prevented from trying to cross the Rhine, and so he broke up his camp and hastened to the river.

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JUNIOR MATRICULATION.

FRENCH AUTHORS, GRAMMAR AND SIGHT TRANSLATION.

Examiners: { J. H. CAMERON, M.A.
J. N. DALES, M.A.
L. E. HORNING, PH.D.

A.

1. Translate into English :—

Jean Bart était arrivé à son but. Il se trouvait en face du roi avec la même adresse qu'il manœuvrait devant les escadres ennemies. Il conduisit la conversation à travers les écueils, les passes, les rochers, où il voulait l'amener; c'est-à-dire qu'ayant commencé par se faire faire force compliments sur sa sortie du port de Dunkerque où il était étroitement bloqué par les Anglais; sur l'incendie de plus de quatre-vingts bâtiments ennemis qu'il brûla en mer; et enfin sur sa descente à Newcastle,—il mit un genou en terre devant le roi, et finit par lui demander la grâce de Keyser, son matelot, condamné à mort pour avoir tué son adversaire en duel.

2. Translate into English :—

(a) En passant devant la mairie, je vis qu'il y avait du monde arrêté près du petit grillage aux affiches.

(b) Le moujik me baisa les mains, et un des assistants, qui parlait français, m'invita à faire désormais plus d'attention à mon nez.

(c) Il ne se peut rien de plus beau que l'environnement; voyons les dedans, s'il vous plaît.

(d) M. Seguin avait derrière sa maison un clos entouré d'aubépines. C'est là qu'il mit sa nouvelle pensionnaire. Il l'attacha à un pieu au plus bel endroit du pré.

(e) J'accours; il serrait le haut de la patte dans ses deux mains, et sur un mouvement de sa main droite, les quatre doigts s'ouvraient et se refermaient comme les doigts d'une main humaine.

[OVER]

3. Write the second person singular imperative of the verbs *était*, *amener*, *se trouvait*, *conduisit*, and *voulait*; the third plural present indicative of *ayant*, *baisa*, *mit*, *voyons*, *bloqué*, and *faire*; and the third plural past definite of *tué*, *vis*, *accours*, *s'ouvraient*, *peut*.

4. Translate the following sentences, making use of material in any of the extracts above:—

- (a) He finally gave me his book.
- (b) There is a man here who speaks French.
- (c) The door of that fine house opens.
- (d) Let us see what you have.

B.

5. Translate into English :—

Quand j'ai connu la vérité,
J'ai cru que c'était une amie :
Quand je l'ai comprise et sentie
J'en étais déjà dégoûté.

Et pourtant elle est éternelle,
Et ceux qui se sont passés d'elle,
Ici-bas ont tout ignoré.

6. Translate into English :—

MASHAM, *étonné*. Abigaïl... je ne vous reconnais pas... d'où vient ce trouble... cette émotion ?

ABIGAÏL. Je n'en ai pas... je suis venue... j'ai couru... tant j'étais pressée d'obéir à la reine... Il ne s'agit pas de moi... mais de la duchesse... Que vous a-t-elle dit ?

MASHAM. Elle veut, pour me soustraire au danger, que je parte demain pour l'armée...

ABIGAÏL, *poussant un cri*. Vous faire tuer ! pour vous soustraire au danger... Et vous croyez que cette femme-là vous aime... (*se reprenant*) non... je veux dire... vous porte intérêt... vous protège ?

MASHAM. Oui, sans doute... je lui ai dit que j'irai prendre ses dépêches pour le maréchal... ce soir, chez elle.

ABIGAÏL. Vous avez dit cela, malheureux !...

MASHAM. Où est le mal ?

ABIGAÏL. Et vous irez ?

MASHAM. Oui, vraiment... Et elle était pour moi si affable, si gracieuse, que lorsque vous êtes venue j'allais lui parler de nos projets et de notre mariage...

C.

7. Translate into English.

Raconter les noces de la princesse et de Poucinet serait chose inutile ; toutes les noces se ressemblent, il n'y a de différence que dans les lendemains. Cependant, à la sortie de l'église, le fidèle géant ne trouva rien de mieux à faire que de mettre la voiture de nocé sur sa tête et de ramener ainsi les époux au palais. C'est ce qu'on ne voit pas tous les jours. Poucinet était si petit qu'il était bien difficile de le respecter ; mais il était si bon et si doux qu'il eut bientôt conquis l'amour de sa femme et l'affection du peuple tout entier. Après la mort du roi, il occupa le trône pendant cinquante-deux ans, sans que jamais personne un seul jour désirât une révolution. Il était si bon, que le plaisir d'autrui faisait toute sa joie.

8. Translate into English.

Un père chargé de biens et d'années, prit le parti de distribuer entre ses trois fils ses richesses, fruit de ses travaux. "Je me réserve encore," dit le vieillard, "un diamant, que je destine à celui d'entre vous qui se distinguera le plus par quelque action noble et généreuse." Pour obtenir ce prix, les fils se dispersent ; mais, au bout de trois mois, on les voit de retour à la maison paternelle... Après avoir entendu le récit de leurs aventures le vieillard regarda tendrement le plus jeune et s'écria "Si tu as sauvé la vie de ton ennemi, le diamant est à toi. Quelle grandeur d'âme que de faire du bien à son ennemi !"

Department of Education, Ontario.

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JUNIOR MATRICULATION.

FRENCH COMPOSITION.

Examiners: { J. H. CAMERON, M.A.
J. N. DALES, M.A.
L. E. HORNING, PH.D.

A.

Translate into French:—

1. How long has Frantz been going to school ?
2. How did Jean Bart get out of the port of Dunkirk ?
3. We still have the table we bought twenty years ago.
4. Francis came at nine o'clock, and went home in the afternoon.
5. How long the road is ! I am so tired that I can't walk.
6. They had already sowed their seed before the thirteenth of May.
7. Louis the Sixteenth was born in seventeen hundred and fifty-four.
8. Can you tell me which months of the year have only thirty days ?
9. Nobody comes to see him, and he goes to see nobody.
10. If she should arrive too soon, I should not be able to see him.
11. If we had cut [down] the trees when they were small, they would not have been worth much.
12. The miller drew a brush from his pocket, and began to brush his hat.
13. Although it is not cold here, I am not warm enough yet.
14. Which is the most useful vegetable ?—It is the potato.
15. Have the kindness to take off your hat when you enter the church.
16. These animals are hungry ; they need food ; give them some.
17. Are their trains not more comfortable than ours ?—I think not.

[OVER]

18. We have written all our letters. What do you want us to do next?
19. They were right, we were wrong; we were sleepy and hungry; we lay down in the shade.
20. Don't you like the fruit which these trees bear?—I am very fond of it.

B.

Translate into French, using none but the “irregular” verbs:—

1. We shall read, we shall write, we shall owe, we shall be willing, we shall see, we shall make; that we (may) go, that we (may) say, that we (may) take.

2. I have read, I have taken, I have said, I have pleased, I have covered, I have hated, I have run, I have wished, I have gone, I have conducted.

C.

Translate into French:—

A book is a strange thing. But books are so common¹ that we forget how much they used to cost, when they were made for the first time, several centuries² ago. The paper was very good, the ink was excellent, and as these old books were always bound³ in leather, they have not all been destroyed.

It needs⁴ many people to make a little book. There are the men who manufacture⁵ the paper and the ink. There are others who put together⁶ the letters which compose the words. Then there are persons who fasten⁷ together the sheets of paper by sewing them. It is the binders⁸ who finish the book.

The books of our day⁹ are not all well made. The paper contains a large quantity of wood, and it is said that this paper will not last¹⁰ a hundred years. Perhaps there is in this¹¹ nothing to be regretted.

- | | | | |
|----------------------|----------------------|-----------------------------|-----------------------|
| 1. <i>commun.</i> | 2. <i>siècle, m.</i> | 3. to bind = <i>relier.</i> | 4. <i>il faut.</i> |
| 5. <i>fabriquer.</i> | 6. <i>assembler.</i> | 7. <i>lier.</i> | 8. <i>relieur, m.</i> |
| 9. plural. | 10. <i>durer.</i> | 11. in this = <i>là.</i> | |

Department of Education, Ontario.

Supplemental Examinations, 1910.

JUNIOR MATRICULATION.

GERMAN AUTHORS, GRAMMAR, AND SIGHT TRANSLATION.

Examiners: { J. H. CAMERON, M.A.
J. N. DALES, M.A.
L. E. HORNING, PH.D.

A.

1. Translate into English :—

Es wird auch erzählt, daß einmal, als Kottkäppchen der alten Großmutter wieder Gebackenes brachte, ein anderer Wolf ihm zugeprochen und es vom Wege habe ableiten wollen. Kottkäppchen aber hütete sich und ging gerade fort seines Wegs und sagte der Großmutter, daß es dem Wolf begegnet wäre, der ihm guten Tag gewünscht, aber so böß aus den Augen geguckt hätte: „wenns nicht auf offner Straße gewesen wäre, er hätte mich gefressen.“

2. Write down the nominative plural of Mutter, Wegs, Tag, Straße.

3. Decline in full, in singular and plural, ein anderer Wolf.

4. Give in full the present indicative of hütete sich.

B.

5. Translate into English :—

Sie knüpfte ihm sein Halstuch um, denn das verstand sie besser als er; sie knüpfte es ihm mit einer Doppelschleife um; das war sehr hübsch! Sie strich seinen Hut glatt mit ihrer flachen Hand und gab ihm dann einen Kuß zum Abschied. Darauf ritt er fort auf dem Pferde, welches verkauft oder vertauscht werden sollte.

6. Give the past participles of all verbs in the extract.

[OVER]

C.

7. Translate into English :—

Wie ich wieder bei meinem Regimente ankomme, da lachte der Adjutant wieder übers ganze Gesicht und drehte seinen Schnauzbart herum und gab mir die Hand. Ich freute mich, daß er wieder gut war, und seine Plauscherei bei Majestät ihm doch nichts genutzt und ich fürs Einhauen an der Tafel auch noch das eiserne Kreuz von Seiner Majestät selbst gekriegt hatte.

8. Give the third person singular present indicative of ankomme, gab, lachte, ich freute mich.

9. Give the nominative plural of Regimente, Gesicht, Schnauzbart, Hand, Adjutant.

D.

10. Translate into English :—

Fraget nicht, warum ich traure
In des Lebens Blütenzeit!
Alles freuet sich und hoffet,
Wenn der Frühling sich erneut.
Aber diese tausend Stimmen
Der erwachenden Natur
Wecken in dem tiefen Busen
Mir den schweren Kummer nur.

E.

11. Translate into English :—

„Er ist der Herr dieses Waldes, und nach dem zu schliessen, dass Ihr in Eurem Alter dies noch nicht erfahren, müsst Ihr drüben über dem Tannenbühl oder wohl gar noch weiter zu Hause sein. Vom Holländer Michel will ich Euch aber erzählen, was ich weiss und wie die Sage von ihm geht. Vor etwa hundert Jahren, so erzählte es wenigstens mein Grossvater, war breit und weit kein ehrlicheres Volk auf Erden, als die Schwarzwälder. Jetzt, seit so viel Geld im Land ist, sind die Menschen unredlich und schlecht. Die jungen Burschen tanzen und johlen am Sonntag, und fluchen, dass es ein Schrecken ist; damals war es aber anders, und wenn er jetzt zum Fenster dort herein schaute, so sag' ich's, und hab' es oft gesagt, der Holländer Michel ist schuld an all' dieser Verderbnis.“

12. Translate into English :—

Es war einmal ein Knabe, der Frieder hiess und weder Vater noch Mutter hatte. Er war ein schönes Kind, und wenn er vor der Tür auf der Strasse spielte, blieben die Leute stehen und fragten: „Wem gehört der kleine?“ Dann antwortete seine Pflegemutter, eine alte Frau: „Er ist ein Waisenkind.“ Frieder wuchs auf wie die Disteln hinter dem Haus seiner Pflegemutter, aber Kameraden hatte er keine. Wenn die anderen Buben des Dorfes im Bach Mühlen bauten oder im Heu spielten, sass Frieder auf der Wiese, hörte den Vögeln zu und piff ihnen ihre Weisen nach.

Eines Tages traf ihn ein alter Mann, der mit ihm Freundschaft schloss. Von der Zeit an sah man die beiden täglich vor dem Haus des Alten sitzen, denn er konnte wunderbare Geschichten erzählen und verstand auch die Geige zu spielen. Diese Kunst lehrte er dem Frieder. Dieser lernte so schnell, dass der Alte sich sehr freute und sprach die prophetischen Worte: „Du wirst einmal ein grosser Spielmann werden.“ Und später hat Frieder wirklich vor Königen und Kaisern gespielt.

Department of Education, Ontario.

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JUNIOR MATRICULATION.

GERMAN COMPOSITION.

Examiners : { J. H. CAMERON, M.A.
J. N. DALES, M.A.
L. E. HORNING, PH.D.

A.

1. Give the German for :—small, once, the piece, the bottle, weak, to forget, to meet, to dwell, early, to taste, to look for, the face.

2. Give the German for :—he thought, she is coming, he sees, it was growing, she finds, he was going in, she understood, it was burning, she believed, he laughs ; done, exchanged, given, borne, possessed.

3. Give the German for :—a young girl, the large window, a long wall, a dark night, of a brave soldier.

B.

Translate into German :—

1. I have been alone all day.
2. Do you hear the birds singing ?
3. The gentlemen do not know the lady.
4. What will happen now, do you suppose ?
5. She was wearing an old yellow dress.
6. That little dog won't bite you, child !
7. The young boys were running fast and screaming.
8. The poor (fellow) opened his eyes wide.
9. In what room does our work begin to-night ?
10. Could you not study diligently every day ?
11. These fine trees have twigs and leaves, but no blossoms.
12. Trees blossom in spring, and the fruit ripens in summer and autumn.

[OVER]

13. A tall man was standing in the open door of the castle.
14. Did you ever see the castle by the sea of which the poet sings ?
15. The giant looked very wicked, but David cut off his head.
16. The poor boy was hiding his face because he had seen a bit of fog, and was afraid.
17. On the bridge before the castle gate stood an old minstrel, whose song pleased the king very much.
18. Everybody is glad when spring comes, for then the birds sing gaily, and all hearts are happy and hopeful.
19. A young artist once painted the picture of the daughter of a merchant, but did not receive any money for his work.
20. He knows that he must always tell children the truth, but he will not tell how old he is, and does not think he should.

C.

Translate into German.

Peter stood before the large tree and hoped to see the little man of whom his mother had told the story. He did really see a pretty little squirrel which was sitting on a branch, and seemed to be laughing at him. Soon it became dark in the forest, and Peter ran home as fast as he could. But he had run in the wrong direction, and came to a large hut, where an old man, his son, and some grandchildren were living. They did not ask for his name, but told him he could stay until the storm was over. After supper, while the wind was howling and it was raining, the old man told the story of Dutch Michael. He had been a woodchopper, as strong as three men. He went to Holland with the raftsmen, and helped them sell their wood, so that they got four times as much money as usual.

squirrel = *Eichhörnchen*.

direction = *Richtung*.

woodchopper = *Holzhauer*.

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JUNIOR MATRICULATION.

GREEK AUTHORS AND GRAMMAR.

Examiners: { A. CARRUTHERS, M.A.
G. W. MITCHELL, M.A.
E. T. OWEN, M.A.

A.

1. Translate into English ;—

Μετὰ ταῦτα οἳ τε Ἑλλήνες καὶ Ἀριαῖος περιέμενον Τισσα-
φέρνην ἡμέρας πλείους ἢ εἴκοσιν. ἐπεὶ δὲ οὐχ ἦκεν, οἱ στρατιῶται
ἀχθόμενοι, καὶ ὑποπτεύοντες τὸν Ἀριαῖον, μὴ οὐ πιστὸς εἶη,
προσῆσαν τῷ Κλεάρχῳ, καὶ ἤξιον ἀπιέναι εὐθύς. ὁ δὲ ἀπ-
5 ἐκρίνατο αὐτοῖς τοίαδε, “Ἐγὼ ἐνθυμοῦμαι μὲν ταῦτα πάντα
ἐὰν δὲ νῦν ἀπίωμεν, δόξομεν ποιεῖν παρὰ τὰς σπονδάς. ἔπειτα
οὐδεὶς παρέξει ἡμῖν ἀγορὰν, οὐδὲ ἡγήσεται ἡμῖν. καὶ Ἀριαῖος
εὐθύς ἀποβήσεται, ὥστε οὐδεὶς φίλος λελείψεται ἡμῖν. καὶ εἰ
μὲν τις καὶ ἄλλος ποταμὸς διαβατέος ἐστίν, οὐκ οἶδα. ἴσμεν δὲ
10 ὅτι ἀδύνατόν ἐστι διαβῆναι τὸν Εὐφράτην, πολεμίων κωλύόντων.
καὶ ἡμεῖς μὲν οὐκ ἔχομεν ἵππεας, τοῖς δὲ πολεμίοις ἵππεῖς εἰσὶ
πλείστοι. ὥστε νικῶντες μὲν οὐδένα ἂν ἀποκτείναιμεν, νικώμενοι
δὲ οὐδαμῶς ἂν σωζοίμεθα. εἰ μὲν οὖν βασιλεὺς βούλεται
ἀπολέσαι ἡμᾶς, τί δεῖ αὐτὸν ἐπιορκῆσαι καὶ ψεύσασθαι, καὶ
15 ποιῆσαι τὰ πιστὰ ἑαυτοῦ ἄπιστα Ἑλλησὶ τε καὶ βαρβάροις ;”

2. State the tense, mood, and voice of ἀπεκρίνατο (l. 4),
παρέξει (l. 7), λελείψεται (l. 8), διαβῆναι (l. 10), ἀπολέσαι (l. 14),
ψεύσασθαι (l. 14), giving the first person singular, present
indicative of the verb from which each of these forms
comes.

3. Account for the mood of εἶη (l. 3), ἀπίωμεν (l. 6), ἀπ-
ολέσαι (l. 14).

4. Account for the case of ἡμέρας (l. 2), Ἀριαῖον (l. 3),
αὐτοῖς (l. 5), ἡμῖν (l. 7), πολεμίων (l. 10), αὐτόν (l. 14), βαρβάροις
(l. 15).

5. Substitute εἰ clauses for νικῶντες and νικώμενοι in line 12.

[OVER]

B.

6. Translate into English :—

“ δαιμονίη, μή μοί τι λήην ἀκαχίζεο θυμῷ·
 οὐ γάρ τίς μ' ὑπὲρ αἶσαν ἀνὴρ ἴδιδι προΐάψει·
 μοῖραν δ' οὐ τινά φημι πεφυγμένον ἔμμεναι ἀνδρῶν,
 οὐ κακὸν οὐδὲ μὲν ἐσθλόν, ἐπὴν τὰ πρῶτα γένηται.
 5 ἄλλ' εἰς οἶκον ἰούσα τὰ σ' αὐτῆς ἔργα κόμιζε,
 ἱστόν τ' ἡλακάτην τε, καὶ ἀμφιπόλοισι κέλευε
 ἔργον ἐποίχεσθαι· πόλεμος δ' ἀνδρεσσι μελήσει
 πᾶσιν, ἐμοὶ δὲ μάλιστα, τοὶ Ἰλίου ἐγγεγάασιν.”

ὥς ἄρα φωνήσας κόρυθ' εἴλετο φαίδιμος Ἕκτωρ
 10 ἵππουριν· ἄλοχος δὲ φίλῃ οἰκόνδε βεβήκει
 ἐντροπαλιζομένη θαλερὸν κατὰ δάκρυ χέουσα.
 αἶψα δ' ἔπειθ' ἴκανε δόμους εὖ ναιετάοντας
 Ἕκτορος ἀνδροφόνοιο, κιχήσατο δ' ἔνδοθι πολλάς
 ἀμφιπόλους, τῇσιν δὲ γόον πάσῃσιν ἐνῶρσεν.
 15 αἱ μὲν ἔτι ζῶν γόον Ἕκτορα ᾧ ἐνὶ οἴκῳ·
 οὐ γάρ μιν ἔτ' ἔφαντο ὑπότροπον ἐκ πολέμοιο
 ἵξεσθαι, προφυγόντα μένος καὶ χεῖρας Ἀχαιῶν.

7. Name the metre and scan the first two lines of the passage.

8. What part of what verb is each of the following :—
 ἀκαχίζεο (l. 1), ἐγγεγάασιν (l. 8), βεβήκει (l. 10), κιχήσατο (l. 13),
 γόον (l. 15), ἔφαντο (l. 16) ?

9. Explain the case of μοι (l. 1), ἴδιδι (l. 2), αὐτῆς (l. 5),
 οἰκόνδε (l. 10), δάκρυ (l. 11), μιν (l. 16).

10. Briefly describe any two of the scenes in which Hector figures, as pictured in Book VI, line 237 to the end.

Department of Education, Ontario.

Supplemental Examinations, 1910.

JUNIOR MATRICULATION.

GREEK ACCIDENCE, SYNTAX, AND SIGHT TRANSLATION.

Examiners: { A. CARRUTHERS, M.A.
G. W. MITCHELL, M.A.
E. T. OWEN, M.A.

1. Give the genitive singular and the dative plural of ἡμέρα, βασιλεύς, πλείων, ποταμός, πόλις, ὄνομα, ἐλθών, ἐγώ, σύ, ἔθνος, πολὺς.

2. Decline in combination in the singular ὁ ἀγαθὸς Ἕλληνα, and in the plural ὁ ἀνδρείος ἡγεμών.

3. Compare ἀγαθός, φανερός, ταχέως, αἰσχρός, καλός, μάλα, μέγας, ἰσχυρός. (Of the adjectives, only the nom. sing. masc. of the comparative and superlative is required.)

4. Identify each of the following forms (that is, tell the form and give the word from which it comes):— ἐγένετο, ἱππέας, παρέχωμεν, εἶπε, πλείστοι, ὄντες, ἡμεῖς, ἄξω, ἀποκρινάμενοι, ἀπῆλθον.

5. Write in full the future indicative active of φυλάττω, and the first aorist optative active of μένω.

6. Without translating the sentences, explain the syntax of the underlined words in the following:—

(a) ἐπειδάν δὲ διαπράξωμαι ἂ βούλομαι ἥξω πάλιν.

(b) ἔλεγον δὲ ὅτι ἦκοιεν ἔχοντες ἡγεμόνας.

(c) αἱ δὲ σπονδαὶ μενόντων, μέχρι ἂν πάλιν ἦκω.

(d) ὑποψαίαι ἦσαν ἀλλήλων, ὥσπερ τὸ πρόσθεν.

(e) ἄνευ δὲ σοῦ πᾶσα ἡ ὁδὸς διὰ σκοτόους ἂν γένοιτο.

[OVER]

(f) ὀλίγοι αὐτῶν ἐγεύσαντο σίτου.

(g) φιλία δὲ καὶ εὐνοία οὐδεὶς ποτε συνείπετο αὐτῷ.

(h) ὑπισχνεῖτο δὲ αὐτῷ εἰ ἔλθοι, ποιήσιν αὐτόν φίλον τῷ Κύρῳ.

(i) ἀναμνήσω ὑμᾶς τὰς τῶν προγόνων ἀρετὰς ἵνα εἰδῆτε ὥς προσῆκει ὑμῖν εἶναι ἀγαθοῖς.

7. Translate into English :—

(Xenophon's reply to those who had ordered him to withdraw from the territory he was holding after its conquest by his Greek troops.)

Ὁ δὲ Ξενοφὼν ἀκούσας ταῦτα εἶπεν, “ Ἀλλὰ σοὶ μὲν τοιαῦτα λέγοντι καὶ ἀποκρίνασθαι χαλεπὸν· τούτου δ' ἔνεκα τοῦ νεανίσκου λέξω, ἵν' εἰδῇ οἱοί τε ὑμεῖς ἐστε καὶ οἱοὶ ἡμεῖς. ἡμεῖς μὲν γάρ,” ἔφη, “ πρὶν ὑμῖν φίλοι γενέσθαι ἐπορευόμεθα διὰ ταύτης τῆς χώρας ὅποι ἐβουλόμεθα, ἣν μὲν ἐθέλοισιν πορθοῦντες, ἣν δ' ἐθέλοισιν καίοντες, καὶ σὺ ὅποτε πρὸς ἡμᾶς ἔλθοις πρεσβεύων, ἡυλίζου τότε παρ' ἡμῖν οὐδένα φοβούμενος τῶν πολεμίων· ὑμεῖς δὲ οὐκ ἦτε εἰς τήνδε τὴν χώραν, ἢ εἴ ποτε ἔλθοιτε, ὥς ἐν κρειττόνων χώρα ἡυλίζεσθε ἐγκεχαλινωμένοι τοῖς ἵπποις. ἐπεὶ δὲ ἡμῖν φίλοι ἐγένεσθε καὶ δι' ἡμᾶς σὺν θεοῖς ἔχετε τήνδε τὴν χώραν, νῦν δὲ ἐξελαύνετε ἡμᾶς ἐκ τῆσδε τῆς χώρας ἣν παρ' ἡμῶν ἐχόντων κατὰ κράτος παρελάβετε· ὥς γὰρ αὐτὸς οἶσθα, οἱ πολέμοι οὐχ ἱκανοὶ ἦσαν ἡμᾶς ἐξελαύνειν.

χαλεπός, painful.

νεανίσκος, young man.

οἶος, of what character.

πορθέω, lay waste.

πρεσβεύω, be an ambassador.

αὐλίζομαι, bivouac, encamp.

ἐγχαλινώω, bridle.

κράτος, power.

Department of Education, Ontario.

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

ALGEBRA.

1. (a) If the fractions

$$\frac{a}{b}, \frac{c}{d}, \frac{e}{f},$$

are unequal and all the denominators positive, show that

$$\frac{a+c+e}{b+d+f}$$

will be less than the greatest and greater than the least of the fractions.

(b) Find the ratio $x:y:z$ from the equations $3x+y=2z$, $4x=y+3z$. Use your result to obtain the values of x , y , and z if $x^3+y^3+z^3=467$.

2. (a) If A varies as B , show that A is equal to B multiplied by some constant quantity.

(b) The square of the time which a body takes to slide down a smooth incline, varies as the square of the length, and inversely as the height. If the time taken is one second when the height is 4 feet and the length 8 feet, what must be the height of a plane 3 feet long so that the body may slide down it in one-half a second?

3. (a) What is meant by the sum of a geometrical series to infinity ($r < 1$)? Find a formula for the sum of such a series.

(b) To each of 3 consecutive terms of a geometric series the middle one is added. Prove that the 3 resulting expressions are in harmonic progression.

4. (a) Find the value of m if $x^2 - xy - 6y^2 + 7x - y + m$ can be resolved into 2 factors of the first degree.

(b) Simplify $\sqrt[2]{17+4\sqrt{15}} - \sqrt[3]{10+6\sqrt{3}}$.

[OVER]

5. (a) Sum to n terms the series

$$1 \times 3 + 3 \times 5 + 5 \times 7 + \dots$$

(b) Sum the series

$$1 + 2 \times 6 + 3 \times 6^2 + 4 \times 6^3 + 5 \times 6^4$$

by first expressing it in the scale of 6 and then converting into the scale of 10.

6. (a) Find the number of permutations of n things taken r at a time, repetitions being allowed.

(b) Twenty-two boys wish to divide themselves into two equal groups for a game of football. Two of the boys are brothers. In how many ways can the two teams be made up, so that the brothers will not play on the same side?

7. (a) Obtain in its simplest form the term containing x^r in the expansion of each of the following:—

$$\left(x + \frac{1}{x}\right)^n, \quad (1-x)^{-3}.$$

(b) Use the Binomial Theorem to show that the sum of the series

$$1 + \frac{1}{6} + \frac{1 \cdot 3}{1 \cdot 2} \cdot \frac{1}{6^2} + \frac{1 \cdot 3 \cdot 5}{1 \cdot 2 \cdot 3} \cdot \frac{1}{6^3} + \text{ad inf.} = {}^2\sqrt{\frac{3}{2}}.$$

8. I hold a mortgage for \$4000 payable in 6 years from date, and bearing interest at 6 per cent. payable yearly. What is the cash value of the mortgage to me if the current rate of interest is 5 per cent. per annum?

$$(1.05)^6 = 1.340096.$$

9. Solve graphically for x and y

$$(x-4)^2 + (y-3)^2 = 25,$$

$$x-y = 2.$$

Verify the result algebraically.

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

ENGLISH COMPOSITION.

NOTE.—*The candidate must not use in his composition any name which would indicate his examination centre.*

Write a composition on *one* of the following subjects :—

1. A Valley.

(A description.)

2. Midnight—The Town Clock Speaks.

3. The story of *one* of the following :—

(a) Ulysses.

(b) Saul.

(c) Dante.

(d) Sir Walter Raleigh.

(e) La Salle.

(More importance will be attached to the way in which the story is told than to the accuracy of the facts.)

4. A correspondent argues that, on the whole, people were happier under the simple conditions of pioneer life than under the increasing complexity of life in the present day. Write a reply.

5. O England, should'st thou one day fall,
Shattered in ruins by some Titan foe,
Justice were thenceforth weaker throughout all
The world, and Truth less passionately free,
And God the poorer for thy overthrow.

6. For I dipt into the future, far as human eye could see,
Saw the Vision of the world, and all the wonder that would be ;
Saw the heavens fill with commerce, argosies of magic sails,
Pilots of the purple twilight, dropping down with costly bales ;
Heard the heavens fill with shouting, and there rained a ghastly dew
From the nations' airy navies grappling in the central blue ;
Far along the world-wide whisper of the south wind rushing warm,
With the standards of the peoples plunging thro' the thunder-storm.

Department of Education, Ontario.

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

GEOMETRY.

1. If ABC be a triangle and A be joined to a point P in BC such that $BP:PC = 2:3$, then

$$3AB^2 + 2AC^2 = 5AP^2 + 2PC^2 + 3BP^2.$$

2. If from the vertical angle of a triangle a straight line be drawn perpendicular to the base, the rectangle contained by the sides of the triangle is equal to the rectangle contained by the perpendicular and the diameter of the circle described about the triangle.

3. Of all triangles on the same base and having equal perimeters, the isosceles has the maximum area.

4. If a straight line meet the sides BC , CA , AB of a triangle ABC in D , E , F respectively, then

$$BD \cdot CE \cdot AF = DC \cdot EA \cdot FB.$$

5. The tangents AB and AC drawn to a given circle always contain a right angle. Find the locus of A .

6. ABC is a given circle whose radius is $1\frac{1}{2}$ inches. P is a point $\frac{3}{4}$ of an inch from its centre. Construct accurately the polar of P , stating the definition or theorem used as the basis of your construction.

7. (a) Find the equation of a straight line in terms of the intercepts it makes on the axes.

(b) Employ your result to obtain the equation of a straight line which passes through the point $(3, 5)$ and makes an intercept on the axis of x double of that on the axis of y .

[OVER]

8. Prove that the perpendicular distance of the point (a, b) from the line $Ax + By + C = 0$ is

$$\pm \frac{Aa + Bb + C}{\sqrt{A^2 + B^2}}.$$

9. (a) Find the equation of a circle having radius r , and the coordinates of its centre (a, b) .

(b) Find the coordinates of the point of intersection of the tangents drawn to the circle $x^2 + y^2 = 28$ at the points where it is cut by the line $x - 2 = 0$.

10. What does the equation $x^2 + y^2 - 6x - 2y = 0$ become (a) when the origin is transferred to the point $(3, 1)$, (b) when the rectangular axes are rotated through an angle of 30° ?

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ENTRANCE INTO THE FACULTIES OF EDUCATION

ENGLISH LITERATURE.

1. In the case of each of any *five* of the following passages, (a) state the connection in which it occurs, (b) explain the meaning :—

- (i) You know that I held Epicurus strong,
And his opinion.
- (ii) Certain, if knowledge bring the sword,
That knowledge takes the sword away.
- (iii) One whom the strong sons of the world despise ;
For lucky rhymes to him were scrip and share,
And mellow metres more than cent for cent.
- (iv) The imperial votaress passed on,
In maiden meditation, fancy-free.
- (v) Since the quarrel
Will bear no colour for the thing he is,
Fashion it thus, that what he is, augmented,
Would run to these and these extremities.
- (vi) At first, indeed,
Through many a fair sea-circle, day by day,
Scarce rocking, her full-busted figure-head
Stared o'er the ripple feathering from her bows.
- (vii) That which would appear offence in us,
His countenance, like richest alchemy,
Will change to virtue and to worthiness.

2. Describe the character of Cassius as it is seen in his relations with Brutus, throughout the play of *Julius Caesar*.

3. Quote *one* of the following :—

- (a) The description of the Battle of Waterloo, from *The Ode on the Death of the Duke of Wellington*.
- (b) Any fifteen consecutive lines spoken by either Cassius or Antony with reference to Caesar.
- (c) Any fifteen consecutive lines spoken by either Theseus or Hippolyta in *A Midsummer Night's Dream*.
- (d) The description of the Gods, in *The Lotos Eaters*; fifteen lines, beginning, "For they lie beside their nectar."

[OVER]

4. Therefore the winds, *piping to us in vain*,
 As in revenge, have suck'd up from the sea
 Contagious fogs; which falling in the land
 Have every pelting river made so proud,
 5 That they have overborne their continents :
 The ox hath therefore stretch'd his yoke in vain,
 The ploughman lost his sweat ; and the green corn
 Hath rotted ere his youth attain'd a beard ;
 The fold stands empty in the drowned field,
 10 And crows are fatted with the murrion flock ;
 The nine men's morris is fill'd up with mud ;
 And the quaint mazes in the wanton green
 For lack of tread are undistinguishable ;
 The human mortals want their winter here.

(a) Name the speaker.

(b) Explain the meaning of the following words, as here used :—"contagious" (l. 3), "pelting" (l. 4), "continents" (l. 5), "murrion" (l. 10), "quaint" (l. 12), "wanton" (l. 12).

(c) Explain the meaning of the italicized expressions.

(d) Show the bearing of this passage in helping to fix the date of the play.

5. (a) *A Midsummer Night's Dream* lacks any definite plot. How then does the dramatist succeed in maintaining the interest of his audience ?

(b) What means does he use to combine the different episodes, or stories, so as to give unity to the play ?

(c) "The stories of Theseus, the lovers, the fairies, and Pyramus and Thisbe, all serve to illustrate the same idea from different points of view." What is the central idea common to all these stories ?

6. " **COURAGE !** " he said, and pointed toward the land,
 " This mounting wave will roll us shoreward soon. "
 In the afternoon they came unto a land
 In which it seemed always afternoon.
 5 All round the coast the languid air did swoon,
 Breathing like one that hath a weary dream.
 Full-faced above the valley stood the moon ;
 And like a downward smoke, the slender stream
 Along the cliff to fall and pause and fall did seem.

(a) Describe the form of the foregoing stanza.

(b) Comment on the relation of the sound and the form to the thought expressed.

(c) Write out and scan lines 3 and 6.

The gull shall whistle in his wake, the blind wave break in fire,
 He shall fulfil God's utmost will unknowing His desire ;
 And he shall see old planets pass and alien stars arise,
 And give the gale his reckless sail in shadow of new skies.

- 5 Strong lust of gear shall drive him out, and hunger arm his hand
 To wring his food from a desert nude, his foothold from the sand.
 His neighbours' smoke shall vex his eyes, their voices break his rest,
 He shall go forth till South is North, sullen and dispossessed ;
 And he shall desire loneliness, and his desire shall bring
- 10 Hard on his heels a thousand wheels, a people and a king ;
 And he shall come back in his own track, and by his scarce cool camp
 There he shall meet the roaring street, the derrick and the stamp ;
 For he must blaze a nation's ways with hatchet and with brand,
 Till on his lost-won wilderness an Empire's bulwarks stand.

—*Rudyard Kipling.*

(a) Why is "The Foreloper" a better title for this poem than "The Forerunner," or "The Pioneer" ?

(b) What reasons are given in this poem as to why 'the foreloper' goes forth into new lands ?

(c) Explain the meaning of "God's utmost will" (l. 2), "reckless" (l. 4), "till South is North" (l. 8), "dispossessed" (l. 8), "lost-won" (l. 14.)

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

PHYSICS.

1. (a) Explain what is meant by saying that the acceleration due to gravity is 32 feet per second per second. Give an experimental proof.

(b) A particle moves for three seconds with a constant acceleration, during which time it describes 40·5 feet; the acceleration then ceases and during the next three seconds it describes 72 feet; find its initial velocity and its acceleration?

2. (a) State the parallelogram of forces and give an experimental proof of it.

(b) Show how the triangle of forces can be derived from the parallelogram of forces.

(c) A mass of one pound is supported by strings of lengths 3 and 4 feet respectively, attached to two points in the same horizontal plane 5 feet apart. What is the tension of each string?

3. (a) Define the moment of a force. Show how the moment of a force can be represented geometrically.

(b) Prove the principle of moments for two parallel forces.

4. Masses of 10, 20, 30 and 40 grammes are placed at the four angles of a square each side of which is 20 cm. in length, and a mass of 50 grammes at the centre. Find the distance of the centre of gravity from the centre of the square.

5. A and B are the masses of two bodies connected by a thread over a frictionless pulley. Find (a) the acceleration of each body, (b) the tension of the thread, (c) the pressure on the peg to which the pulley is attached if the pulley weighs 100 grammes. (A is greater than B .)

[OVER]

6. Describe experiments to prove :—

(a) Pressure in a liquid increases with the depth.

(b) Archimedes' principle.

(c) Pressure exerted at one point in a liquid is transmitted equally to all parts of the liquid.

7. An equilateral triangle is immersed vertically in mercury of specific gravity 13·6. Two of its angles are at a depth of 6 metres, the third at a depth of 9 metres. Find the pressure on one side of the triangle if the barometer stands at 70 centimetres.

8. (a) Explain what is meant by the centre of buoyancy.

(b) What are the conditions of equilibrium in a floating body? Prove.

(c) A piece of wood of specific gravity ·6 is floating in oil of specific gravity ·85; what fraction of its volume is immersed?

9. Describe the ordinary cistern barometer. What adjustment is made before taking a reading? Why is this necessary? What changes in the atmosphere cause a lowering, and what changes cause a rising, of the mercury in the barometer?

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MEDIÆVAL HISTORY.

1. Describe the German tribes under the following heads :—
 - (a) Their social life and political organization.
 - (b) The circumstances which brought them into contact with the Roman Empire.
 - (c) Their conversion to Christianity.
2. What important changes in the government of the Roman Empire are associated with the name of Constantine? What effect had these changes on the later history of the Empire?
3. "Monasticism in spreading from East to West assumed a less extreme and more corporate character."
 - (a) Justify the foregoing statement.
 - (b) Outline the organization of the monastic orders.
 - (c) What were their chief services to the civilization of the Middle Ages?
4. (a) What political and economic conditions of the Middle Ages favoured the growth of Feudalism?
 - (b) How did the Church adapt itself to Feudal institutions?
 - (c) What eventually led to the downfall of Feudalism?
5. What led to the rise of the mediæval universities? What useful purposes did these institutions serve?
6. Mention the features of the life and work of Alfred of England which entitle him to the name "Alfred the Great."
7. Trace the development of a strongly centralized government in France during the Middle Ages. Give the names of the more important kings.

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TRIGONOMETRY.

1. (a) Find in radians the angle of a sector of a circle whose radius is 4 inches, if the number of square units in the area of the sector equals the number of linear units in its entire perimeter.

(b) Express your answer in degrees, minutes, and seconds.

2. (a) Construct accurately (i) an acute, (ii) an obtuse angle whose sine is $\frac{2}{3}$.

(b) Establish the formulae (i) $\sin^2 A + \cos^2 A = 1$, (ii) $\cos(90^\circ + A) = -\sin A$.

3. (a) Prove geometrically that

$$\cos(A - B) = \cos A \cos B + \sin A \sin B.$$

(b) Find the sine, cosine and tangent of 15° .

4. Tabulate the values of $(\sin \theta + \cos \theta)$ for intervals of 15° as θ increases from 0° to 180° , and represent the variation in sign and magnitude by a graph.

5. (a) In the triangle ABC show that

$$a^2 = b^2 + c^2 - 2bc \cos A. \quad (A > 90^\circ)$$

(b) From (a) deduce an expression for $\sin \frac{A}{2}$ in terms of the sides of the triangle.

6. (a) Show that the mantissae are the same for the logarithms of all numbers which have the same significant digits.

(b) Simplify

$$\log (1\frac{1}{15})^7 + \log (1\frac{1}{24})^5 + \log (1\frac{1}{80})^3.$$

[OVER]

7. Two observers on a horizontal plane, and 500 feet apart, find the angles of elevation of an aeroplane to be 60° and 75° at the moment it crosses the vertical plane determined by their positions. Find the height of the aeroplane to the nearest foot.

8. (a) Show how to solve a triangle, having given 2 sides and an angle opposite one of them.

(b) What are the conditions for an ambiguous solution? Illustrate by diagrams.

9. The sides of a triangle are 25, 35, and 45 inches. Find (a) the greatest angle, and (b) the length of the radius of the circumscribed circle to the nearest tenth of a foot.

$$\log 1.1 = .0413927 \qquad L \sin 47^\circ 52' = 9.8701613$$

$$\log 2 = .3010300 \qquad L \sin 47^\circ 53' = 9.8702756$$

$$\sin 95^\circ 44' = .9949976$$

$$\sin 95^\circ 45' = .9949685$$

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MODERN HISTORY.

1. (a) What were the outstanding features of the Renaissance in Italy?
(b) Who were the humanists?
(c) Describe the humanistic movement in Germany.
2. Discuss the Thirty Years' War under the following heads:—
(a) The causes of the War.
(b) The parts played by France and Sweden.
(c) Its results so far as France and Germany respectively were concerned.
3. What was the Edict of Nantes? By whom was it promulgated, and by whom revoked? What were the effects of its revocation upon France as a whole?
4. (a) Name and describe the chief Protestant sects in England during the reign of Charles I.
(b) What was the policy of Charles I in religious matters? Give illustrations.
(c) Describe briefly the Puritan emigration to America in the early part of the Seventeenth Century.
5. Describe the means employed by Peter the Great in laying the foundations of the Russian Empire. In this connection make mention of his more important military campaigns.
6. Sketch the development of the Spanish Colonial Empire. Through what agencies did this empire eventually become lost to Spain?
7. Write brief notes on any *four* of the following:—
(a) The English East India Company.
(b) The American Declaration of Independence.
(c) The Peace of Utrecht.
(d) The Reign of Terror.
(e) The "Eastern Question."
(f) The Monroe Doctrine.

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

LATIN AUTHORS.

NOTE.—*All translations are to be expressed in idiomatic English.*

A.

1. Translate :—

Namque videbat, uti bellantes Pergama circum
hac fugerent Graii, premeret Troiana iuventus ;
hac Phryges, instaret curru cristatus Achilles.
nec procul hinc Rhesi niveis tentoria velis
5 adgnoscit lacrimans, primo quae prodita somno
Tydides multa vastabat caede cruentus,
ardentesque avertit equos in castra, priusquam
pabula gustassent Troiae Xanthumque bibissent.

2. *Namque videbat* (l. 1). Supply the context so as to account for the introductory *Namque*.

3. Write brief notes on the proper names occurring in lines 3 to 8.

4. *tentoria* (l. 4). Briefly describe the Homeric tents.

5. Account for the mood of *instaret* (l. 3), the tense of *vastabat* (l. 6), and *avertit* (l. 7), and the mood and tense of *bibissent* (l. 8).

6. Explain the syntax of *Pergama* (l. 1), *curru* (l. 3), *somno* (l. 5).

7. Give the principal parts of *instaret*, *adgnoscit*, *avertit*, *bibisset*.

8. Write out and scan line 3.

[OVER]

B.

9. Translate:—

atqui sciebat quae sibi barbarus
 tortor pararet; non aliter tamen
 dimovit obstantes propinquos
 et populum reditus morantem,
 5 quam si clientum longa negotia
 diiudicata lite relinqueret,
 tendens Venafranos in agros
 aut Lacedaemonium Tarentum.

10. State the occasion and the purpose of the present ode?

11. What illustrations does the passage furnish of the occupations, recreations, and ideals of a Roman gentleman?

12. Explain the syntax of *reditus* (l. 4), *lite* (l. 6).

13. Account for the mood of *pararet* (l. 2), and the mood and tense of *relinqueret* (l. 6).

14. Write out and scan the first stanza.

15. Translate:—

Phoebus volentem proelia me loqui
 victas et urbes increpuit lyra,
 ne parva Tyrrhenum per aequor
 vela darem. tua, Caesar, aetas
 5 fruges et agris rettulit uberes
 et signa nostro restituit Iovi
 derepta Parthorum superbis
 postibus et vacuum duellis
 Ianum Quirini clausit et ordinem
 10 rectum evaganti frena licentiae
 iniecit emovitque culpas
 et veteres revocavit artes.

16. Explain the historical allusions in the second and third stanzas.

17. (a) What was — in Horace's view — the mission of Augustus?

(b) What agencies did Augustus invoke to accomplish it?

18. Account for the case of *lyra* (l. 2), *licentiae* (l. 10).

C.

19. Translate :—

Nam tum, cum ex urbe Catilinam eiiciebam (non enim iam vereor huius verbi invidiam, cum illa magis sit timenda, quod vivus exierit), sed tum, cum illum exterminari volebam, aut reliquam coniuratorum manum simul exituram
 5 aut eos, qui restitissent, infirmos sine illo ac debiles fore putabam. Atque, ego, ut vidi, quos maximo furore et scelere esse inflammatos sciebam, eos nobiscum esse et Romae remansisse, in eo omnes dies noctesque consumpsi, ut, quid agerent, quid molirentur, sentirem ac viderem: ut, quoniam au-
 10 ribus vestris propter incredibilem magnitudinem sceleris minorem fidem faceret oratio mea, rem ita comprehenderem, ut tum demum animis saluti vestrae provideretis, cum oculis maleficium ipsum videretis..

20. *sed tum* (l. 3). What is the force of *sed* here ?

21. Compare *magis* (l. 2) *debiles* (l. 5), *minorem* (l. 11).

D.

22. Translate the following passage, employing the form of direct speech from *scire* to the end :—

Divitiacus multis cum lacrimis Caesarem complexus obsecrare coepit, ne quid gravius in fratrem statueret: scire se, illa esse vera, nec quemquam ex eo plus quam se doloris capere, propterea quod, cum ipse gratia plurimum domi atque
 5 in reliqua Gallia, ille minimum propter adolescentiam posset, per se crevisset; quibus opibus ac nervis non solum ad minuendam gratiam, sed paene ad perniciem suam uteretur: sese tamen et amore fraterno et existimatione vulgi commoveri.

23. Parse *gratia* (l. 4), *nervis*, (l. 6), *minuendam* (ll. 6-7).

E.

24. Translate :—

*The strategy of Labienus entices the Gauls to a general engagement
 which ends in their utter rout.*

Vix agmen novissimum extra munitiones processerat, cum Galli, cohortati inter se, ne speratam praedam ex manibus dimitterent; longum esse, perterritis Romanis, Germanorum auxilium exspectare, neque suam pati dignitatem, ut tantis copiis tam exiguum manum, praesertim fugientem atque impeditam, adoriri non audeant; flumen transire et iniquo loco committere proelium non dubitant. Quae fore suspicatus Labienus, ut omnes citra

[OVER]

flumen eliceret, eadem usus simulatione itineris placide progrediebatur. Tum, praemissis paulum impedimentis atque in tumultu quodam collocatis, “Habetis,” inquit, “milites, quam petistis, facultatem: hostem impedito atque iniquo loco tenetis: praestate eandem nobis ducibus virtutem, quam saepenumero imperatori praestitistis, atque illum adesse et haec coram cernere existimate.” Simul signa ad hostem converti aciemque dirigi iubet et paucis turmis praesidio ad impedimenta dimissis reliquos equites ad latera disponit. Celeriter nostri clamore sublato pila in hostes immittunt. Illi, ubi praeter spem, quos fugere credebant, infestis signis ad se ire viderunt, impetum nostrorum ferre non potuerunt ac primo concursu in fugam coniecti proximas silvas petiverunt.

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

LATIN COMPOSITION.

A.

Translate into Latin :—

- (1) Having learned this, he makes a speech to the soldiers.
- (2) He perceived at what risk he did this.
- (3) They ask that it be allowed them to do this.
- (4) Caesar decided that he must cross the Rhine.
- (5) Ariovistus bars the Roman people from the whole of Gaul.
- (6) Caesar did not wish this place to remain uninhabited for fear the Germans would migrate from their own territories.
- (7) That part of the state which had brought disaster on the Roman people was the first to pay the penalty.
- (8) The severer the siege (*oppugnatio*) was the more frequently letters were sent.
- (9) That day was the 28th of March, in the consulship of Piso and Gabinius.

B.

Translate into Latin :—

There was among the Carnutes a man of noble birth named Tasgetius, whose ancestors had held sovereignty in their own country. To him Caesar, in recognition of his valour and good-will, (for in all his campaigns he had found his services exceptionally valuable), had restored the position of his ancestors. He was now in the third year of his reign, when his enemies, with the avowed sanction of many of the citizens, put him to death. The affair was reported to Caesar. Fearing that, as many were implicated, the tribe might be impelled by them to revolt, he ordered L. Plancus to march rapidly with his legion from Belgium into the country of the Carnutes, to winter there, and to arrest and send to him those whom he had found responsible for the death of Tasgetius.

[OVER]

C.

Translate into Latin :—

(The Latin words to be used are given below in the uninflected form and in the Latin order.)

(1) "These benefits," said he, "you owe to me, whom you accuse of treachery, by whose efforts, without shedding a drop of your blood, you see so great a victorious army almost starved to death; and I have taken care that when it seeks safety in ignominious flight not one tribe will give it refuge within its borders."

Hic, inquam, a ego beneficium habeo, qui proditio insimulo, qui opera sine vester sanguis tantus exercitus victor fames paene consumo video; qui turpiter sui (gen.) ex hic fuga recipio ne qui civitas suos finis recipio, a ego provideo.

(2) When Caesar was informed of these events by Crassus, as he was a long way off, he gave orders that before his return ships of war should be built on the Loire, which flows into the Ocean, that oarsmen should be raised from the Province, and that seamen and pilots should be assembled. These orders were promptly executed, and he himself, as soon as the season permitted, hastened to join the army.

Qui de res Caesar a Crassus certus facio, quod ipse absum longe, navis interim longus aedifico in flumen Liger, qui influo in Oceanus, remex ex provincia instituo, nauta gubernatorque comparo jubeo. Hic res celeriter administro ipse, cum primum per annus tempus possum, ad exercitus contendo.

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ENGLISH LITERATURE—SPECIAL.

[*High School Regs. p. 57, Sec. 4 (2) (c).*]

1. In the case of each of any *four* of the following passages, (a) state the connection in which it occurs, (b) explain the meaning :—

- (i) The clouds that gather round the setting sun
Do take a sober colouring from an eye
That hath kept watch o'er man's mortality.
- (ii) The lifted axe, the agonizing wheel,
Luke's iron crown, and Damien's bed of steel,
To men remote from power but rarely shown,—
Leave reason, faith, and conscience all our own.
- (iii) But who shall so forecast the years,
And find in loss a gain to match,
Or reach the hand through time, to catch
The far-off interest of tears ?
- (iv) Thus night, oft see me in thy pale career,
Till civil-suited morn appear ;
Not tricked and frownced as she was wont
With the Attic boy to hunt,
But kerchief'd in a comely cloud.
- (v) But sith the heavens and your faire handeling,
Have made you master of the field this day,
Your fortune maister eke with governing,
And well begonne, end all so well, I pray !
- (vi) A crew, who, under names of old renown,
Osiris, Isis, Orus, and their train,
With monstrous shapes and sorceries abused
Fanatic Egypt and her priests, to seek
Their wandering Gods disguised in brutish form.

2. Compare Chaucer's *Prologue*, Spenser's *Faerie Queene*, Book I., and Milton's *Paradise Lost*, Book I., as to the means used by the authors to secure and maintain the interest of the reader.

[OVER]

High on hors he sat,
 Upon his heed a Flaundrisch bevere hat ;
 His botës clapsed faire and *fetysly*.
 His resons he spak ful solempnely,
Sownynge alway thencre of his wynnynge.
He wolde the see were kept for eny thinge
Betwixë Middelburgh and Orëwelle.
Wel couthe he in eschaungë scheeldës selle.
 This worthi man ful wel his wit bisette ;
 There wistë no wight that he was in dette,
So estatly was he of governaunce
With his bargayns and with his chevysaunce.

- (a) To whom does "he" (l. 1), refer ?
 (b) Explain the italicized expressions.

4. Sketch briefly the parts played by Sansfoy, Sansloy, and Sansjoy, in the events described in Book I. of *The Faerie Queene*.

5. (a) Give a short account of Pope's *Prologue to the Satires*, so as to show its character and purpose.

(b) Compare *The Rape of the Lock* with *The Deserted Village*, as to the character of the theme, the method of presenting the thought, and the poetic form.

6. Wordsworth stated that his principal object in writing was to make incidents and situations from common life interesting "by tracing in them the primary laws of our nature."

Show what "primary laws of our nature" are expressed in *The Reverie of Poor Susan*, *Hart Leap Well*, and *Yarrow Unvisited*.

7. (a) State Tennyson's views as to the immortality of the soul, as expressed in *In Memoriam*. Illustrate your answer by quotations.

(b) State in simple language the meaning of the following passage :—

Tho' truths in manhood darkly join,
 Deep-seated in our mystic frame,
 We yield all blessing to the name
 Of Him that made them current coin ;
 For Wisdom dealt with mortal powers
 Where truth in closest words shall fail,
 When truth embodied in a tale
 Shall enter in at lowly doors.
 And so the Word had breath, and wrought
 With human hands the creed of creeds
 In loveliness of perfect deeds,
 More strong than all poetic thought ;
 Which he may read that binds the sheaf,
 Or builds the house, or digs the grave,
 And those wild eyes that watch the wave
 In roarings round the coral reef.

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

HISTORY OF ENGLISH LITERATURE AND LANGUAGE.

[*High School Regs. p. 57, Sec. 4 (2) (c).*]

1. What circumstances in Chaucer's life, and what elements in his character, qualified him for the vivid portrayal of social life in the England of his day?

2. Indicate the more important features of Spenser's life in Ireland. What influence had his Irish sojourn upon his work as a poet?

3. Describe the events in the life of Milton which either gave rise to, or reflect themselves in, the following works:—*(a)* *Comus*; *(b)* *Lycidas*; *(c)* *Eikonoklastes*; *(d)* *Samson Agonistes*.

4. In what important respects do the works of Pope and Tennyson reflect the literary tendencies and social ideals of the times in which they were produced?

5. Mention the chief dialects of Old English. Which two of these are of most interest from the standpoint of the history of literature? What important literary works in these two dialects remain to us?

6. Illustrate from English speech the following terms:—*(a)* borrowed prefix, *(b)* borrowed suffix, *(c)* doublet, *(d)* hybrid, *(e)* homonym.

7. *(a)* What is meant by the term "analogy" as applied to changes in word forms and to the derivation of words?

(b) On the basis of the principle of analogy, account for the following forms:—firstly, *loving*, *riches* (plural), *causeway*, *sparrow-grass*.

(c) What analogical changes have taken place in the declension of the noun in English?

[OVER]

8. (a) "The changes in the verb since old English times have been of two kinds,—one towards complexity and the other towards simplicity."

In what specific ways have the two tendencies just mentioned been shown?

(b) What is the distinguishing mark of the weak verb in the Teutonic languages?

(c) Mention, with illustrations, the chief classes of irregular weak verbs in English.

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

FRENCH AUTHORS.

A.

1. Translate into English:—

(a) Puis, s'adossant à la boiserie, il tira une pipe du fond de son chapeau, la bourra de tabac, battit le briquet, et l'alluma.

—Alors, qu'on ne m'y fasse pas attendre; moi, je fume toujours quand j'attends.

—Monsieur le capitaine de frégate, je vais être obligé de vous faire sortir.

—Avant que j'aie parlé au roi! fit Jean Bart en riant. Ah! je vous en défie bien.

10 (b) Des ailes d'épervier tremblaient à son* épaule;
La voyant s'envoler, je sautai sur ses reins;
Et, faisant jusqu'à moi ployer son cou de saule,
J'enfonçai comme un peigne une main dans ses crins.

*Son = une jeune chimère.

2. Give the plural of *Monsieur* and *cou*, and the first person singular present subjunctive of *riant*, *faisant* and *enfonçai*.

3. Account for the mood of *aie parlé* (l. 8), and for the tenses of *tremblaient* (l. 10) and *sautai* (l. 11).

B.

4. Translate into English:—

(a) ABIGAÏL. Je ne puis revenir de mon bonheur et quoique depuis deux jours je ne quitte plus Votre Majesté, je ne puis croire encore qu'il me soit permis, à moi, la pauvre Abigaïl, de vous consacrer ma vie.

5 LA REINE. Ah! ce n'est pas sans peine! Tu as dû penser, lorsque je t'ai si froidement accueillie, que tout était perdu. Mais, vois-tu bien, ma fille, on ne me connaît pas. . . . J'ai l'air de céder. . . . je cède même pendant quelque temps; mais je ne perds pas de vue mes projets, et, à
10 la première occasion qui se présente de montrer du caractère. . . . C'est ce qui est arrivé! [OVER]

(b) LA REINE, *tremblante*. Lui!... Masham!...

BOLINGBROKE, *prêt à sortir*. Lui... ou tout autre, qu'importe?

15 LA REINE, *avec colère*. Ce qu'il m'importe, dites-vous?... (*Se levant vivement*.) Si l'on m'abuse, si l'on me trompe!... si l'on met en avant les intérêts de l'État, quand il s'agit de caprices, d'intrigues, ou d'intérêts particuliers... Non... non... il faut que tout s'explique! Restez, milord,
20 restez! moi, la reine, je veux... je dois tout savoir!

5. Account for each of the uses of the subjunctive mood in extract (a).

6. LA REINE... (*se levant vivement*). When do such participial forms as *levant* agree with the words they modify?

7. To what extent is the Queen's estimate of her own character in extract (a) (ll. 7-11) borne out in the play? (Answer in not more than ten lines.)

C.

8. Translate into English:—

(a) D'ailleurs aurais-je su où était Lewes, que je ne pouvais pas m'y rendre tout de suite en abandonnant Mattia; je devais donc retourner au champ de course, si fatigué que je fusse.

5 (b) Après les fêtes de Noël, il fallut sortir dans la journée, et nos chances diminuèrent; nous n'avions guère plus d'espérance que dans le dimanche; aussi restâmes-nous bien souvent à la maison, au lieu d'aller nous promener en cette journée de liberté, qui aurait pu être une journée de
10 récréation.

(c) J'ai entendu leur conversation sans l'écouter: "Solide comme un roc, a dit le gentleman; dix autres seraient morts, il en est quitte pour une fluxion de poitrine." Alors, voyant qu'il s'agissait de toi, j'ai écouté; mais la conversation a
15 changé tout de suite de sujet.

(d) Je voudrais bien que madame Milligan eût encore la cuisinière qui te faisait de si bonnes tartes aux confitures, disait-il, cela doit être joliment bon des tartes à l'abricot. J'ai mangé des chaussons aux pommes, mais je n'ai jamais mangé
20 des tartes à l'abricot, seulement j'en ai vu. Qu'est-ce que c'est que ces petites choses blanches qui sont collées sur la confiture jaune?

(e) Nous approchions de Dreuzy; encore deux jours, encore un, encore quelques heures seulement.

25 Enfin nous apercevions les bois dans lesquels nous avons joué avec Lise à l'automne précédent, nous apercevons aussi l'écluse et la maisonnette de dame Catherine.

Sans nous rien dire, mais d'un commun accord, nous avons forcé le pas, Mattia et moi, nous ne marchons plus, nous 30 courons; Capi, qui se retrouve, a pris les devants au galop.

9. Give the present participle, the third person singular of the imperfect subjunctive, and the first person singular of the future of *su*, *pouvais*, *dit*, *faisait*, *courons*, and *pris*.

10. Indicate the context of extract (e).

D.

11. Translate into English:—

L'étroite vallée est pleine de mystérieux murmures. Les insectes, nés du matin, grimpent à la cime des herbes et essayent leurs ailes bourdonnantes; ici, le bourgeon fait éclater son enveloppe avec une détonation étouffée; là-bas, entre deux racines, c'est le tapage rapide d'un rat d'eau qui plonge. Mais qui marche ainsi dans le sentier couvert? Ces froissements de feuilles mortes, l'agitation des ronces frôlées, tout annonce l'arrivée hâtive d'un être vivant. Le berger écoute, tourne la tête: un visiteur bizarre lui apparaît. La taille de cet hôte du vallon ne dépasse pas une coudée; sa robe fauve à reflets pâles miroite au soleil. Il court, incertain, l'oeil oblique; ralentit son allure, flaire, s'arrête brusquement sous un dôme d'églantiers; arc-bouté sur ses jarrets tremblants, il avance sa lèvre fendue et sa moustache hérissée. Ce n'est rien, c'est un lièvre. Le timide animal demeure une seconde en son effarement; redresse une de ses oreilles, couche l'autre sur sa nuque rousse, bondit légèrement, s'évanouit comme une ombre.—

ronce, bramble.
fauve, drab.
allure, pace.

arc-bouté, crouched.
nuque, nape of neck.

Department of Education, Ontario.

Annual Examinations, 1910.

ENTRANCE INTO THE FACULTIES OF EDUCATION.

FRENCH COMPOSITION.

A.

Translate into French :—

1. If I were not a Frenchman I should like to be an Italian.
2. I must go home since nobody has asked me to stay.
3. The faster I ran, the heavier my burden became.
4. He could not have known what was about to happen.
5. Not content with frightening the merchant, they beat him and took away his jewels.
6. What a pretty child ! It has fair hair, blue eyes, and rosy cheeks.
7. After having spoken for nearly an hour, he bowed his head and went away.
8. The children have always done as they liked, but now they will have to obey me.
9. Let us start; it is getting late, and I do not wish to keep them waiting longer.
10. July 21, 1910 ; $\frac{3}{5}$, $\frac{61}{102}$; half-past twelve o'clock ; a quarter to one o'clock ; 9 times 9 make 81. (*All figures to be expressed in French words.*)
11. There are many more potatoes for sale to-day than yesterday. How many did the grocer buy yesterday ?
12. The books that I have just had bound (*relier*) are the dearest books I have bought in ten years.
13. Unless you send me other advice before to-morrow, I shall wait until you come yourself.
14. While driving with some friends last week we saw some farmers mowing in a field.
15. To-day we were to have our first German lesson, and I am very sorry to be late.
16. They spoke of this and of that, it is true ; but what we wanted to know is just what they did not tell us.

[OVER]

17. I thought the prize distribution was to take place on the first of the month, but I must have made a mistake.
18. His mother came, and then the nurse, but these were not the ones the little patient had been asking for.
19. I shall translate this exercise as soon as I have time. It is longer and more difficult than those I have yet translated.
20. I did not know whether to give it to the little children or to the older ones, so I have given it to no one.

B.

Translate into French :—

(a) When Remi leaped from the fast-moving train he fell into a ditch, and the shock was so great that he fainted. When he came to himself an ugly yellow dog was licking his face, and his old comrade Mattia was kneeling beside him. . . . He was lying on some straw beneath the cover of an old spring-cart, and it was Bob who was driving the horse, which some one had been persuaded to lend to them. They were going as fast as possible to a little sea-port, whence a boat sailed very early every morning for France. . . . They feared much that they might be followed, but they arrived safely before the boat set sail, and went on board at two o'clock in the morning.

(b) A friend met Socrates one day, and said to him: "Somebody has been speaking very ill of you." "That makes no difference," replied Socrates, "I will even consent to his beating me when I am not present."

(c) A certain Italian had written a book upon the art of making gold, and, in the hope of a large reward, had dedicated it to Pope Leo X. When the Pope saw that the man persisted in seeking the reward, he sent him a big empty purse, and said: "Since you know how to make gold, you need only a purse in which to carry it."

Department of Education, Ontario.

Annual Examinations, 1910.

ENTRANCE INTO THE FACULTIES OF EDUCATION.

GERMAN AUTHORS.

A.

1. Translate into English :—

„Er hat einen roten Spiegel auf dem Brustschild und schwarze Hörner,“ sagte Hans, indem er seinen tintengeschwärzten Finger am Haupthaar abwischte, „es ist der Goldkäferkönig. Er wohnt in einem Schloss, das ist
5 aus Jasminblüthen gebaut und mit Rosenblättern gedeckt. Grillen und Heimchen sind seine Musikanten und Johanniswürmchen seine Fackelträger.“

„Du bist ein Faselhans,“ sprach Heinz.

2. Show (in not more than ten lines) how the rest of the story bears out the characters of Hans and Heinz as revealed in the above extract.

3. Give the nominative plural of *Spiegel*, *Brustschild*, *Schloss*, and *Faselhans*, and the genitive singular of *Jasminblüthen*, *Rosenblättern*, *Musikanten*, and *Faselhans*.

B.

4. Translate into English :—

(a) Peter nahm von der Mutter Abschied: „Ich muss auf's Amt in die Stadt, denn wir werden bald spielen müssen, wer Soldat wird, und da will ich dem Amtmann nur noch einmal einschärfen, dass ihr Wittwe seid, und
5 ich euer einziger Sohn.“

(b) Endlich hörte er eines Tages, die Schönste und Tugendsamste im ganzen Wald sei eines armen Holzhauers Tochter. Sie lebe still und für sich, besorge geschickt und emsig ihres Vaters Haus und lasse sich
10 nie auf dem Tanzboden sehen, nicht einmal zu Pfingsten oder Kirchweih.

[OVER]

(c) Die Väter trafen sich allabendlich in der „Ressource,“ und wenn auch der Kanzleirat, der Predigt seiner Gattin eingedenk, ängstlich bemüht war, dem Schneidermeister gegenüber seiner
15 Standesehre nichts zu vergeben und alle familiären Ausdrücke vermied, so ging man doch keinen Abend aus einander, ohne der Freundschaftskette ein neues Glied eingereiht zu haben.

(d) „Aber ich sage dir das Eine: auf den Händen möchte ich meinen Sohn tragen, der seines Vaters wegen auf sein Glück
20 verzichtet hat. Wie er auftrat und den ungarischen Grafen zurechtwies, . . . das werde ich ihm nie vergessen . . . Kopf oben, Frau!“

5. Account for the different cases in die Stadt (l. 2) and der „Ressource“ (l. 12), and also in eines Tages (l. 6) and keinen Abend (l. 16).

6. Explain the mood of lasse (l. 9).

7. Predigt (l. 13). State briefly the occasion and the substance of the Predigt.

C.

8. Translate into English:—

(a) Cäcilie (maulend). Siehst du, da lachst du mich aus!

Baumann (plötzlich sich zum Ernst zwingend). Bewahre, sprich nur weiter —

Cäcilie (mit niedergeschlagenem Blick). Ich schämte mich
5 aber, dem alten Mann so etwas zuzumuten, und noch mehr, als mir einfiel, daß ich bei dieser Probe ja dann auch zärtlich gegen den alten fremden Menschen thun müßte.

(b) Cäcilie. Hör' mich doch nur an, es war ja Alles — (näher sich ihm).

10 Hohendorf. Zurück! Kein Wort mehr! . . .

Cäcilie (in Thränen für sich). Ach, was wird das werden? Hätt' ich doch nicht geglaubt, daß er gar so arg — (giebt sich Mühe zu sehen, was Hohendorf vor hat). Vielleicht, daß er sich doch beruhigt.

15 (c) Emilie. . . . Es war gerade ein Vers darin, der auf uns paßte, den haben wir geteilt.

Frida. Dann fehlt ja aber jedem Anfang oder Ende.

Emilie. Es kommt doch nur darauf an, was man sich dabei denkt. Er hat seinen Teil in dem kleinen goldenen Medaillon
20 an seiner Uhrkette verwahrt, und ich den meinigen in dieser Kapsel.

(d) Stern. Es erklärt sich diesmal wohl auch nur aus der Aufregung, in der ich mich in diese Gesellschaft begab.

Generalin. Aus welcher Veranlassung, Herr Professor.

25 Stern. Ach, aus gar keiner besonderen. Wenigstens bedürfte es ihrer nicht. Ich....fühle mich in einer größeren Zahl von Personen....sofort beklommen und gedrückt, und stoße in dem Bestreben, mich irgendwie nützlich zu machen, erst recht überall an.

9. Give the past participle of einfiel (l. 6), thun (l. 7), and begab (l. 23); and the third person singular of the imperfect subjunctive of giebt (l. 13), denkt (l. 19), and stoße...an (lines 27-29).

10. der auf uns paßte (ll. 15-16). State briefly the dramatic purpose served in the play by the persons referred to in uns.

D.

11. Translate into English :—

(a) „Nein, Pierre,“ lautete die Antwort, „aber du kannst dir denken, daß ich nicht gleichmüthig bleiben kann, nun die Entscheidung meines Schicksals so nahe bevorsteht. Wird Johann die Wahrheit enthüllen, oder nicht? Das ist die Frage, die mir alles Blut aufregt und mir keinen Augenblick aus dem Gedanken kommt. Versetze dich nur in meine Lage, und du wirst es natürlich finden, daß ich nicht so ruhig, wie gewöhnlich bin.“

(b) Geh' durch die Nacht, wenn sanft der Sommer stirbt,
Im duft'gen Heu die kleine Grille zirpt,
Der liebe Mond so goldigrot und rund
Hervorkommt aus dem dunkeln Tannengrund;
Altweibersommer hängt an Strauch und Baum,
Die letzte Blume träumt den letzten Traum,
Zu deinen Füßen taumelt lautlos matt
Vom Eichenbaum das erste gelbe Blatt;
Und droben in der Luft ein Schwalbenzug,
Du hörst nur rauschen ihren raschen Flug.
Kein Lied, kein Ton, wie sonst zur Frühlingszeit!
Lautloses Scheiden, Scheiden weit und breit.—
In solcher Nacht, da wirst du still und fromm;
Doch gehe nicht allein, komm' zu mir, komm'!

Altweibersommer, gossamer.

Department of Education, Ontario.

Annual Examinations, 1910.

ENTRANCE INTO THE FACULTIES OF EDUCATION.

GERMAN COMPOSITION.

A.

Translate into German :—

1. The birds flew away just as the hunter was about to shoot them.
2. Since the wind is from the east, it will be cold and wet.
3. Why, that's natural. We had rather stay at home.
4. I saw him yesterday, and he will not arrive till the day after to-morrow.
5. Nature is an open book, the pages of which all may read who have eyes.
6. What you tell me I have long known. He could not say in what year he was born.
7. We celebrate the birthday of the Dominion of Canada on the First of July. The Dominion is more than thirty-two years old.
8. Even before daybreak they were away, and before half-past twelve they were back again.
9. We saw a woman selling apples, twelve at a time. We bought some without saying a word.
10. She was acquainted with the world, having lived in her youth about the Court.
11. The inhabitants of the Black Forest are taller than most Germans, and have broader shoulders.
12. Peter asked many people if they knew the verse, but all said that they had not heard it.
13. I should think that you might help me a little, as it looks like rain.
14. It is growing darker and darker, and the clouds thicken as the sun goes down.
15. Dr. Eckart was about twenty-five years of age, tall, well-built, but a little stooped. He had not been a teacher long.

[OVER]

16. The Doctor asked Max to come to his library with him that he might give him a book on Roman Antiquities to take home to his mother.
17. None of the company knew the visitor, and, when the Chancellor's wife asked him if he were from Vienna, he replied that he was not, and added that he was a Hungarian.
18. She came up just as Dr. Eckart told the Count to leave the company, and, looking at Eckart, she wanted to know who was master in the house.
19. The Count smiled when he saw the Chancellor's wife leave the room to get the money. Just then the door opened and in came the Mayor, Mr. Eckart, and a stranger.

B.

Give in German, and in proper form, the *beginning* and *ending* of a letter dated to-day, at 69 King St., Toronto, and addressed to a friend in Blanktown, Ont. (*Use fictitious names.*)

C.

Translate into German:—

You have often been in the country near the village of A., have you not? And you have often seen the very old farmhouse on Wund's estate? The walls of the house are crooked, the windows are low, and moss and grass grow upon the roof. On one side of the house are the baking-oven and the one window, which is so arranged that it may be opened. On the other side a young oak tree hangs over the hedge and under its branches lies a little pond where ducks swim about. An old dog is also always there, barking at everything and everybody.

Some years ago an aged couple lived in this farm house, a peasant and his wife. They had very little, indeed, and yet they were always happy and contented. Moreover, little as they had, they had one thing that was superfluous (*entbehrlich*)—an old horse which fed upon the grass on the roads.

Department of Education, Ontario.

Annual Examinations, 1910.

ENTRANCE INTO THE FACULTIES OF EDUCATION.

GREEK AUTHORS.

NOTE.—All translations are to be expressed in idiomatic English.

A.

1. Translate :—

“ οὐ νέμεσις Τρῶας καὶ ἐνκνήμιδας Ἀχαιοὺς
τοιγᾷδ' ἀμφὶ γυναικὶ πολὺν χρόνον ἄλγεα πάσχειν
αἰνῶς ἀθανάτησι θεαῖς εἰς ὧπα ἔοικεν.

ἀλλὰ καὶ ὧς, τοίη περ ἐοῦσ', ἐν νηυσὶ νεέσθω,

5 μῆδ' ἡμῖν τεκέεσσί τ' ὀπίσσω πῆμα λίποιτο.”

ὧς ἄρ' ἔφην, Πρίαμος δ' Ἑλένην ἐκαλέσσατο φωνῇ.

“ δεῦρο πάροιθ' ἐλθούσα, φίλον τέκος, ἵζευ ἐμείο,
ὄφρα ἴδῃ πρότερόν τε πόσιν πηοὺς τε φίλους τε
οὐ τί μοι αἰτὶν ἐσσί· θεοὶ νύ μοι αἴτιοί εἰσιν,

10 οἳ μοι ἐφώρμησαν πόλεμον πολύδακρυν Ἀχαιῶν·

ὧς μοι καὶ τόνδ' ἄνδρα πελώριον ἐξονομήνης,

ὅς τις ὅδ' ἐστὶν Ἀχαιὸς ἀνὴρ ἡὺς τε μέγας τε.

ἦ τοι μὲν κεφαλῇ καὶ μείζονες ἄλλοι ἔασιν·

καλὸν δ' οὕτω ἐγὼν οὐ πω ἴδον ὀφθαλμοῖσιν,

15 οὐδ' οὕτω γεραρόν· βασιλῇι γὰρ ἀνδρὶ ἔοικεν.”

τὸν δ' Ἑλένη μύθοισιν ἀμείβετο, δῖα γυναικῶν.

“ αἰδοῖός τέ μοι ἐσσι, φίλε ἐκυρέ, δεινός τε·

ὧς ὄφελεν θάνατός μοι ἀδεῖν κακός, ὅππότε δεῦρο

υἱεὶ σῶ ἐπόμην, θάλαμον γνωτοὺς τε λιποῦσα

20 παῖδά τε τηλυγέτην καὶ ὀμηλικίην ἐρατεινήν.”

2. (a) οὐ νέμεσις etc. Who are the speakers?

(b) Describe the scene before their eyes.

(c) Account for the presence of Helen.

(d) With what feelings would each of the parties to the dialogue await the expected event?

(e) What characteristics of Helen and of Priam are brought out in the dialogue?

(f) In what year of the war is the scene laid?

[OVER]

3. Parse *πάσχειν* (l. 2), *ᾧπα* (l. 3), *νεέσθω* (l. 4), *ἐλθοῦσα* (l. 7), *ἐμείο* (l. 7), *μοι* (l. 9), *κεφαλῇ* (l. 13), *ἄδειν* (l. 18).

4. Account for the mood of *λίποιτο* (l. 5), *ἴδῃ* (l. 8).

5. Write out and scan fully lines 4 and 9.

B.

6. Translate :—

αὐτὰρ ἐπεὶ σίτου τάρφθεν δμωαί τε καὶ αὐτὴ,
σφαίρη ται δ' ἄρ' ἔπαιζον, ἀπὸ κρήδεμνα βαλοῦσαι
τῇσι δὲ Ναυσικάα λευκώλενος ἤρχετο μολπῆς.
οἷη δ' Ἄρτεμις εἴσι κατ' οὔρεος ἰοχέαιρα,
5 ἢ κατὰ Τηϋῖγετον περιμήκετον ἢ Ἐρύμανθον,
τερπομένη κάπροισι καὶ ὠκείης ἐλάφοισι·
τῇ δέ θ' ἅμα νύμφαι, κοῦραι Διὸς αἰγιόχοιο,
ἀγρονόμοι παίζουσι· γέγηθε δέ τε φρένα Λητώ·
πασάων δ' ὑπὲρ ἣ γε κάρη ἔχει ἡδὲ μέτωπα,
10 ρεῖά τ' ἀριγνώτη πέλεται, καλαὶ δέ τε πᾶσαι·
ὥς ἢ γ' ἀμφιπόλοισι μετέπρεπε παρθένος ἀδμῆς.

7. Write short explanatory notes on the proper names occurring in the extract.

8. Explain the case of *σίτου* (l. 1), *μολπῆς* (l. 3), *φρένα* (l. 8), *πασάων* (l. 9), *κάρη* (l. 9).

9. Parse *τάρφθεν* (l. 1), *γέγηθε* (l. 8).

C.

10. Translate :—

Καὶ οὐ πολλῷ χρόνῳ ὕστερον μετέμελε τοῖς Ἀθηναίοις, καὶ
ἐψηφίσαντο, προβολὰς εἶναι τῶν τὸν δῆμον τότε ἐξαπατησάντων,
εἶναι δὲ καὶ Καλλίξενον τούτων. προὔ-βλήθησαν δὲ καὶ ἄλλοι
τέτταρες, καὶ ἐδέθησαν. ὕστερον δὲ στάσεώς τινος γενομένης,
5 ἀπ-έδρασαν οὗτοι, πρὶν κριθῆναι. Καλλίξενος δὲ κατελθὼν,
μισούμενος ὑπὸ πάντων, λιμῷ ἀπ-έθανεν.

11. Give a summary of the events leading up to the incidents here narrated.

12. Explain the syntax of *πολλῷ χρόνῳ*, *τοῖς Ἀθηναίοις*, *τούτων* (l. 3), *στάσεως*, *κριθῆναι*.

13. Give the principal parts of *προὔ-βλήθησαν*, *ἀπ-έδρασαν*, *κριθῆναι*, *ἀπ-έθανεν*.

14. Translate :—

“ Ὑμεῖς οὖν, ὦ ἄνδρες, ἐὰν σωφρονήτε, οὐ τούτου ἀλλ’ ὑμῶν αὐτῶν φείσεσθε, ὥς οὗτος σωθεὶς μὲν ποιήσῃε ἂν πολλοὺς τῶν ἐναντίων ὑμῖν μέγα φρονεῖν, ἀπ-ολόμενος δὲ ὑπο-τέμοι ἂν τὰς ἐλπίδας πάντων καὶ τῶν ἐν τῇ πόλει καὶ τῶν ἔξω.” Ὁ μὲν
5 ταῦτ’ εἰπὼν ἐκαθέζετο.

15. Write syntactical notes on the forms of the conditional sentences in the above.

16. Translate :—

ἐγὼ δ’, ὦ Κριτία, ἐκείνοις μὲν αἰεὶ ποτε πολεμῶ τοῖς οἰομένοις δημοκρατίαν οὐ καλὴν ἂν εἶναι, πρὶν καὶ οἱ δοῦλοι καὶ οἱ δι’ ἀπορίαν βουλόμενοι δραχμῆς ἀπο-δόσθαι τὴν πόλιν μετέχοιεν τῶν τε ἀρχῶν καὶ τῆς βουλῆς· τοῖσδε δ’ αὖ αἰεὶ ἐναντίος εἰμὶ,
5 οἱ οὐκ οἴονται καλὴν ἂν ἐγ-γενέσθαι ὀλιγαρχίαν, πρὶν καταστήσειαν τὴν πόλιν εἰς τὸ ὑπ’ ὀλίγων τυραννεῖσθαι.

17. Compare καλὴν (l. 5), ὀλίγων (l. 6).

D.

18. Translate :—

(The duplicity of Tissaphernes toward Agesilaus.)

Καὶ συλλέξας τὸ στράτευμα ἔπλει εἰς Ἑφεσον. ἐπεὶ δὲ ἐκείσε ἀφίκετο, πρῶτον μὲν Τισσαφέρνης πέμψας ἤρετο αὐτὸν, ‘ τίνος δεόμενος ἦκοι.’ ὁ δ’ εἶπε, ‘ δέομαι αὐτονόμους καὶ τὰς ἐν τῇ Ἀσίᾳ πόλεις εἶναι, ὥσπερ καὶ τὰς ἐν τῇ παρ’ ἡμῖν Ἑλλάδι.’ πρὸς ταῦτ’ εἶπεν ὁ Τισσαφέρνης· ‘ Εἰ τοίνυν θέλεις σπείσασθαι, ἕως ἂν ἐγὼ πρὸς βασιλέα πέμψω, οἶμαι ἂν σε ταῦτα διαπραξάμενον ἀποπλεῖν, εἰ βούλοιο.’ ‘ Ἀλλὰ βουλοίμην ἂν,’ ἔφη, ‘ εἰ μὴ οἰοίμην γε ὑπὸ σοῦ ἐξ-απατᾶσθαι.’ ‘ ἀλλ’ ὁμοῦμαι,’ ἔφη, ‘ σοι ἢ μὴν ἀδόλως σοῦ πράττοντος ταῦτα ἡμᾶς μηδὲν τῆς σῆς ἀρχῆς ἀδικήσῃεν ἐν ταῖς σπονδαῖς.’ ὁ μὲν δὲ Τισσαφέρνης ἃ ὥμοσεν εὐθύς ἐψεύσατο· ἀντὶ γὰρ τοῦ εἰρήνην ἔχειν στράτευμα πολὺ πρὸς ᾧ εἶχε μετ-επέμπετο παρὰ βασιλέως. Ἀγησίλαος δὲ καίπερ αἰσθανόμενος ταῦτα ὁμως ἐπέμενε ταῖς σπονδαῖς.

Ἐπειτα δὲ μέγα φρονήσας ὁ Τισσαφέρνης ἐπὶ τῷ καταβάντι στρατεύματι παρὰ βασιλέως προ-εἶπεν Ἀγησιλάῳ πόλεμον, εἰ μὴ ἀπ-ίοι ἐκ τῆς Ἀσίας. καὶ οἱ μὲν ἄλλοι μάλα ἐλυποῦντο νομίζοντες τὴν παρ-οὔσαν Ἀγησιλάῳ δύναμιν ἐλάττω εἶναι τῆς βασιλέως παρασκευῆς· Ἀγησίλαος δὲ μάλα φαιδρῷ τῷ προσώπῳ ἐκέλευσε τοὺς πρέσβεις ἀπ-αγγεῖλαι Τισσαφέρνῃ ὥς ‘ πολλὴν χάριν αὐτῷ ἔχοι, ὅτι ἐπιорκήσας αὐτὸς μὲν πολεμίους τοὺς θεοὺς ἐκτήσατο, τοῖς δ’ Ἑλλησι συμμάχους ἐποίησεν.’

Department of Education, Ontario.

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

GREEK COMPOSITION.

Translate into Greek :—

1. I have obeyed this captain gladly.
2. Cyrus set out from the village in the night.
3. We feared that you would not be faithful.
4. I shall do whatever he wishes.
5. I brought as many heavy-armed foot-soldiers as possible.
6. It is the part of those who conquer to command.
7. They did not cross until the others answered.
8. As long as we remain we are safe.
9. He considers that you are in his power.
10. He marched up without opposition.
11. We have come with guides to conduct you.
12. The enemy did not desist from clamour throughout the whole day.
13. The soldiers liked these commanders more than they did the others.
14. We are leading him away that he may not do our friends harm.
15. He planned that he might not be under the domination of his brother.
16. Ask Cyrus for a guide to lead us back through a friendly country.
17. If we should be saved (use participle) we should feel grateful to you.
18. It was said that Cyrus there put three men to death.
19. It was not like Cyrus, if he had money, not to pay his debts.
20. He took the money and collected an army. (Use only one principal verb.)
21. He gave orders that no one should move from his post or put out to sea.
22. Immediately all the rest of Greece revolted from the Athenians.

[OVER]

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

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[OVER]

23. Upon this the Thirty no longer thought that matters were safe for them.
24. Having said that it was meet that they should avail themselves of their ancient laws he dismissed the assembly.
25. During that night no one slept, as they were mourning not only for those who had perished but much more so for themselves.

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

MINERALOGY.

1. Make drawings to illustrate the common crystal form of halite, calcite, pyrite.

2. By means of two drawings of flames and blow-pipe tips show how the oxidizing and reducing flames are produced. Indicate by a mark on each drawing the best position in which to place the object to be oxidized or reduced. Explain how the position of the tip in each case produces the desired result.

3. Name and locate accurately four districts in Ontario in which *metalliferous* ores are extensively mined. Name one important ore mined in each district.

4. What is meant by a vein? How is it formed? Describe the different kinds of veins. (Make drawings.)

5. Describe how the following rocks have probably been formed:—shale, gneiss, conglomerate, and basalt.

6. Distinguish cleavage and fracture. Name three minerals that exhibit marked cleavage. Name three that do not.

7. (a) Describe how you could distinguish the three constituent minerals in a piece of granite. (Field tests are preferred.)

(b) How could well marked specimens of the following pairs of rocks be distinguished:—syenite and diorite, diabase and gabbro, slate and shale. (Simple tests that could be used in the field are preferred.)

8. What is a hydrous mineral? Name one. How could you test for such a mineral?

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

BOTANY.

1. What are the advantages of cross-pollination? Describe any three contrivances designed to insure it.

2. Give an account of the various ways in which foliage-leaves secure a favourable exposure to light.

3. Describe the fruit of each of the following, give the technical name of the fruit in each case, and note any special aids to seed-dispersion :—buttercup, strawberry, hawthorn, pine. .

4. “ Soils are enriched by ploughing in crops of clover and other leguminous plants.” What is the nature of the fertilizing material supplied to the soil in this way, and how is it produced?

5. Compare the relative disposition of the tissues in the root of a bean with that found in the stem, showing adaptation to function in each case.

6. Compare the sporophyte of a true moss with that of a liverwort such as *marchantia*, under the following heads :—

- (a) Relation of sporophyte to gametophyte.
- (b) Structure of sporophyte.
- (c) Spore-dispersal.

7. Write an account of the life-history of *Spirogyra* under the following heads :—

- (a) Habitat.
- (b) General structure.
- (c) Structure of a single cell.
- (d) Two modes of reproduction.

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

CHEMISTRY.

1. State and explain Mendelejeff's periodic law. Show that there are resemblances amongst the members of the halogen group, and also that there is a regular gradation in some properties of the members of the group with increasing atomic weight.

2. Two substances are analysed and found to have the following composition :—The first has 37·37 per cent. of the element A and the remainder is the element B ; the second has 54·4 per cent. of the element A and the remainder is the element B. Illustrate from these data the law of multiple proportions.

3. An aqueous solution of sulphuric acid is mixed with an aqueous solution of magnesium chloride. Give the formulae of four different ions that will be present in the mixture, and give four chemical properties of the mixture, one depending on each ion. Indicate on which ion each property depends.

4. Describe the ammonia or Solvay process of producing sodium carbonate. Give the equations. How could sodium hydroxide be got from the carbonate ?

5. Name the important commercial uses of ammonia, lead carbonate, calcium oxide, tin chloride, and calcium phosphate.

6. Describe in detail a laboratory experiment showing how to find the proportion by volume of oxygen and nitrogen in air.

7. Describe what takes place in the following cases, and give equations where possible :—

- (a) Carbon dioxide in excess is passed into limewater.
- (b) Zinc chloride is dissolved in water and the solution tested with red and with blue litmus.
- (c) Disodium hydrogen phosphate is heated strongly.
- (d) Calcium carbide has water added to it.

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ENTRANCE INTO THE FACULTIES OF EDUCATION.

ZOOLOGY.

1. Compare a grasshopper with a crayfish as to external features, showing resemblances and differences. Why are these animals grouped together as Arthropods? To which class of Arthropods does each belong, and why?
2. A cross-section of a fresh-water mussel is made so as to pass through the heart. Make a sketch showing the organs revealed in the section, and name these organs.
3. "In turtles the body is enclosed between two bony shields." Name and describe these shields in the case of any turtle you have examined.
4. Show how the internal organs of a snake are correlated with the external form of the body, and describe the apparatus and the mode of locomotion in this animal.
5. Describe the respiratory apparatus of a bird, and show its adaptation to the bird's mode of life.
6. Describe the external features and the feeding habits of the common mole, and show how the structure of the animal is adapted to its mode of life. Name the order to which this animal belongs.

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HONOUR AND SCHOLARSHIP MATRICULATION.

ALGEBRA.

Examiners: { A. T. DELURY, M. A.
W. FINDLAY, PH.D.
W. J. PATTERSON, M.A.

1. (a) Prove that a ratio of inequality is brought nearer to a ratio of equality by adding the same positive quantity to both terms of the ratio.

(b) Factor: $a^2(b-c)^3 + b^2(c-a)^3 + c^2(a-b)^3$.

2. (a) Find the condition that $ax^2 + bx + c$ and $px^2 + qx + r$ may have a common factor of the form $x - k$.

(b) For what values of x will $2 + 5x - 3x^2$ be negative? What is the greatest value of the above expression and what is the corresponding value of x ?

3. Solve:—

(a) $\frac{3x-2}{2} + \sqrt{2x^2 - 5x + 3} = \frac{(x+1)^2}{3}$.

(b) $10(x^4 + 1) - 63x(x^2 - 1) + 52x^2 = 0$.

(c) $x^4 + x^2y^2 + y^4 = 336$,
 $x^2 + xy + y^2 = 28$.

4. (a) If x vary inversely as $\frac{yz}{y-z}$, and if $x=5$ when $y=7$ and $z=2$, find the equation connecting x , y and z .

(b) Find the sum of $2k+1$ terms of the series whose n th term is $5n-1$.

5. (a) Insert five G. M.'s between 11 and 704 and find the sum of the whole series thus formed.

(b) Without assuming a formula, sum the series

$$\frac{3}{4} - \frac{1}{4} + \frac{1}{12} - + \dots$$

to 15 terms and thence infer the value of the sum to n terms, and to an indefinitely great number of terms, giving reasons for the inferences.

[OVER]

6. A owns an annuity of \$500 to begin now and to continue forever, and B owns one of \$1000 to begin in 4 years and to continue for 20 years. Compare their present values, money being worth 5% per annum compound interest. (Computations not required.)

7. (a) Without assuming any formula, prove that the number of permutations of n things $r+1$ at a time is $n-r$ times the number of permutations r at a time; thence show

$${}_nP_r = \frac{n}{n-r} \cdot {}_nP_{r-1}.$$

(b) Show how to find the total number of homogeneous products in the expansion of

$$(a+b+c+\dots\text{to } k \text{ letters})^n.$$

8. (a) Show, by the method of induction, that $x^n + a^n$ is exactly divisible by $x+a$, when n is odd.

(b) State and prove the Binominal Theorem for positive integral powers.

9. (a) Prove that $(c_0 + c_1a + c_2a^2 + c_3a^3 + \dots + c_na^n) \times \left(1 - na + \frac{n(n+1)}{1 \cdot 2}a^2 - \frac{n(n+1)(n+2)}{1 \cdot 2 \cdot 3}a^3 + \dots \text{ad infin.}\right) = 1$, where c_0, c_1, c_2 , etc., are the numerical coefficients of x^n, x^{n-1}, x^{n-2} , etc., respectively, in the expansion of $(x+a)^n$, and n is a positive integer.

(b) Extract the fifth root of 253 to 3 places after the decimal point.

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HONOUR AND SCHOLARSHIP MATRICULATION.

ENGLISH COMPOSITION.

Examiners: { W. J. ALEXANDER, PH.D.
E. J. KYLIE, M.A.
J. F. MACDONALD, M.A.

NOTE.—*The candidate must not use in his composition any name which would indicate his examination centre.*

Write a composition on *one* of the following subjects:—

1. A farm scene.

(Such as ploughing, haying, harvesting or milking. The description should be limited to what can be seen at one time and in one place.)

2. How the game of is played.

(Any game may be chosen but a particular contest should not be described.)

3. An argument in favour of any one policy on the Canadian navy question.

4. The story of Enoch Arden, as told by some native of the little port.

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HONOUR AND SCHOLARSHIP MATRICULATION.

GEOMETRY.

Examiners : $\left\{ \begin{array}{l} \text{A. T. DeLury, M.A.} \\ \text{W. Findlay, Ph.D.} \\ \text{W. J. Patterson, M.A.} \end{array} \right.$

1. If the vertical angle of a triangle be bisected, the bisecting line divides the base into segments which are proportional to the sides of the triangle.

2. If the bisectors of the angles A and C of the quadrilateral $ABCD$ meet on BD , prove that the bisectors of the angles B and D meet on AC .

3. If three concurrent straight lines be drawn from the angular points of a triangle to meet the opposite sides, then the product of three alternate segments taken in order is equal to the product of the other three segments.

State the converse theorem, and give two illustrations of it, justifying the application.

4. A chord of a circle is divided harmonically by any point on it and the polar of that point.

5. If from any point P in the circumference of a circle a perpendicular PM be drawn to any chord AB , the square on PM is equal to the rectangle contained by the perpendiculars from A and B to the tangent to the circle at P .

6. Find the area of the triangle whose angular points are (x, y) , $(1, 2)$, $(5, 6)$.

Interpret the results if (x, y) is on the straight line joining the other two points.

7. Find the equation of the straight line through the intersection of the lines $2x - 3y - 6 = 0$, and $3x + 4y - 18 = 0$, and the point of bisection of the straight line joining the points $(-1, 2)$, $(3, 4)$.

[OVER]

8. Find an expression for the angle between the lines $ax+by+c=0$, $a'x+b'y+c'=0$.

From the result derive the conditions for parallelism and perpendicularity.

9. Show that $x^2 + y^2 - 25 = 0$ is the equation of a circle.

Show that the point $(-3, 4)$ is on the circle; write the equation of the tangent to the circle at this point; show that the point $(9, 13)$ is on this tangent; find the equation of the other tangent from $(9, 13)$; write the equation of the polar of $(9, 13)$, and find the equation of the straight line through $(9, 13)$ perpendicular to the polar, commenting on the form of the result.

Construct the illustrative diagram.

10. Find the radical axis of the two circles

$$x^2 + y^2 - 2x - 4y - 4 = 0, \quad x^2 + y^2 - 8x - 10y + 5 = 0.$$

Show that the point $(3\frac{1}{2}, -2)$ is on the radical axis, and find the lengths of the tangents from this point to the two circles.

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HONOUR AND SCHOLARSHIP MATRICULATION.

ENGLISH POETICAL LITERATURE.

Examiners: { W. J. ALEXANDER, PH.D.
E. J. KYLIE, M.A.
J. F. MACDONALD, M.A.

1. It must be by his death : and for my part,
I know no personal cause to spurn at him,
But for the general. He *would* be crown'd :
How that might change his nature, there's the question :
- 5 It is the bright day that brings forth the adder ;
And *that* craves wary walking. Crown him ?—that ;—
And then, I grant, we put a sting in him,
That at his will he may do danger with.
The *abuse* of greatness is when it disjoins
- 10 *Remorse* from power ; and, to speak truth of Caesar,
I have not known when his *affections* sway'd
More than his reason. But 'tis a common *proof*,
That lowliness is young ambition's ladder,
Whereto the climber-upward turns his face ;
- 15 But when he once attains the upmost round,
He then unto the ladder turns his back,
Looks in the clouds, scorning the base degrees
By which he did ascend : so Caesar may ;
Then, lest he may, *prevent*. And, since the quarrel
- 20 *Will bear no colour* for the thing he is,
Fashion it thus ; that what he is, augmented,
Would run to these and these *extremities* :
And therefore think him as a serpent's egg
Which hatch'd would, as his kind, grow *mischievous*,
- 25 And kill him in the shell.
- (a) At what point in the play does this soliloquy occur ?
(b) Explain the italicized parts.
(c) Scan lines 4 and 5.

2. What is the dramatic purpose and effect of :—

(a) The two short scenes immediately preceding the scene of Caesar's assassination ? (Artemidorus reading a paper ; Portia, Lucius, and Soothsayer.)

(b) The scene where the poet Cinna is torn to pieces ?

[OVER]

3. "So let high-sighted tyranny range on
Till each man drop by lottery."
"We all stand up against the spirit of Caesar,
And in the spirit of men there is no blood."
"What's to do ?
A piece of work that will make sick men whole."
"Our reasons are so full of good regard
That were you, Antony, the son of Caesar,
You should be satisfied."

(a) What are the circumstances in which each of these speeches is made ?

(b) How do you explain Brutus' growing conviction of the justice of Caesar's assassination ? (Compare the passages quoted with the soliloquy in question 1.)

4. HIP. This is the silliest stuff that ever I heard.
THE. The best in this kind are but shadows ; and the worst are
no worse if imagination amend them.

(a) When does this conversation take place ?

(b) Explain clearly what Theseus means.

5. Quote *one* of the following :—

(a) "That very time I saw but thou could'st not "
(Fourteen lines.)

(b) "I could be well moved if I were as you ;"
(Fifteen lines.)

(c) "You ask me why though ill at ease "
(First four stanzas.)

(d) "Tears, idle tears, I know not what they mean,"
(The whole poem.)

6. Give the meaning and connection of *three* of the following :—

(a) Rich in saving common sense,
And, as the greatest only are,
In his simplicity sublime.

(b) Watch what main currents draw the years :
Cut Prejudice against the grain.

(c) Thou who stealest fire
From the fountains of the past
To glorify the present ; oh, haste
Visit my low desire.

(d) For all the past of time reveals
A bridal dawn of thunder peals
Wherever Thought has wedded Fact.

7. "Tennyson's descriptions of nature are always scenic backgrounds and are always in keeping with the human figures that occupy the foreground."

Show how far this statement is true of *The Lotos Eaters* and *Ulysses*.

8. When to the sessions of sweet silent thought
I summon up remembrance of things past,
I sigh the lack of many a thing I sought,
And with old woes new wail my dear times' waste :
5. Then can I drown an eye, unus'd to flow,
For precious friends hid in death's *dateless* night,
And weep afresh love's long-since cancell'd woe,
And moan the expense of many a vanish'd sight,
Then can I grieve at grievances *foregone*,
10. And heavily from woe to woe tell o'er
The sad account of fore-bemoaned moan,
Which I *new pay* as if not paid before.
But if *the while* I think on thee, dear friend,
All losses are restor'd, and sorrows end.

(a) State in one sentence the condition of mind of the writer as represented in the poem.

(b) Explain the italicized parts.

(c) Explain the metaphor used in the first two lines.

(d) How does this poem differ from the normal form of sonnet?

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HONOUR AND SCHOLARSHIP MATRICULATION.

PHYSICS.

Examiners: { F. B. ALLAN, PH.D.
W. C. BAKER, M.A.
R. W. SMITH, PH.D.

1. (a) Distinguish between *power* and *work*.

(b) It is estimated that 700,000 tons of water pass over Niagara Falls every minute, and fall 160 feet to the lower level. If it were permissible to take one-tenth of the water for commercial purposes, what horse-power could be developed therefrom ?

2. A body of 4 kilograms mass rests on a smooth plane inclined to the horizontal at 30° . This mass is attached by an inextensible string, passing over a pulley, to a 3 kilogram mass that hangs freely under the action of gravity. If one part of the string is parallel to the plane and the other part is vertical :—

(a) Find the acceleration of the 3 kilogram mass when free to move.

(b) How long will it take the 3 kilogram mass to move 5 metres from rest ?

(c) What is the tension of the string during motion ?

3. (a) Show that the algebraic sum of the moments of any two forces about a point in their plane is equal to the moment of their resultant about the same point.

(b) Find the centre of gravity of a carpenter's steel square of uniform thickness, if the longer arm be 24 inches long by 2 inches wide, and the shorter arm 18 inches long by $1\frac{1}{2}$ inches wide. In each case the length of the arm is measured along the outside edge.

[OVER]

4. The diameter of the piston of a force pump is 4 inches and the length of stroke is 2 feet. Water is being lifted 8 feet to the pump, and then forced 22 feet to a reservoir at the top of a building. Neglecting friction, (a) find the work done on the water in lifting the piston from its lowest to its highest position; (b) find the work done on the water in forcing the piston back from its highest to its lowest position.

5. On a summer day when the barometer stands at 78 centimetres, and the temperature is 17°C ., a stone is attached to the neck of a bottle of one litre capacity. The bottle is allowed to sink three metres in water, the temperature of which is 7°C . Find how many grams of water enter the bottle, if no air escapes. (Assume: Sp. gr. mercury = 13.6; Sp. gr. water = 1.)

6. (a) Explain the fact that in the northern hemisphere the feet of old stoves will generally repel the north-seeking pole of a magnet, while the upper portions of the same stoves will attract this pole.

(b) An astatic pair of magnetic needles is suspended with the needles vertical instead of horizontal. Will the system still be astatic? Give reasons.

7. Two Grove cells in series are connected to a copper voltmeter, and yield 5 amperes :—

(a) How much copper will be deposited in 40 minutes?

(b) How much zinc will be consumed in the batteries in that same 40 minutes?

(Take the electrochemical equivalent of copper as 0.000328, and that of zinc as 0.000338, and assume a constant current during the experiment.)

8. A tangent galvanometer of resistance 138 ohms gives a deflection of 45° when connected directly to 10 Leclanche cells in series. A resistance of 62 ohms is added to the circuit, and deflection of the galvanometer falls to 35° . If the resistance of the connecting wires in the first case be 2 ohms, and if the E.M.F. of one cell be 1.4 volts, find the internal resistance of one cell.

($\tan 45^{\circ} = 1.00$. $\tan 35^{\circ} = 0.700$.)

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HONOUR AND SCHOLARSHIP MATRICULATION.

TRIGONOMETRY.

Examiners: $\left\{ \begin{array}{l} \text{A. T. DELURY, M.A.} \\ \text{W. FINDLAY, PH.D.} \\ \text{W. J. PATTERSON, M.A.} \end{array} \right.$

1. (a) Find the numerical values of $\sin 30^\circ$; $\sec \frac{3}{4} \pi$; $\cot 270^\circ$.
(b) Find the arc of a circle, radius 57.6 cm., subtending an angle of $31^\circ 30'$ at the centre of the circle.

2. Establish the formulae for (a) $\sin (A - B)$; (b) $\cos 2A$; (c) the sine of one-half of an angle of any triangle in terms of the sides.

3. Find the area, and the cosine of the smallest angle, each correct to three places of decimals, of a triangle whose sides are 5, 6, 7 respectively.

4. (a) Find the remaining angles of a triangle of which $a = \sqrt{3}$, $b = \sqrt{2}$, and $B = 45^\circ$.

- (b) Given that $\tan x = \frac{2}{3}$, find $\sin x$ and $\cos x$.

5. Find the sine of the third angle of a triangle, given that the sines of the other two angles are $\frac{3}{5}$ and $\frac{5}{13}$ respectively. Verify your solution by constructing the given angles and finding by measurements the sine of the third angle of the triangle thus formed.

6. (a) Prove that $\log \left(\frac{a}{b} \right) = \log a - \log b$.

- (b) Find by means of logarithms the value of

$$\sqrt{23.45} \div (.0129085)^3.$$

- (c) In the left column of the table at the close of this paper, the first logarithm is the sum of the second and the third. Explain why this is so.

[OVER]

7. Establish the identities:—

$$(a) \quad \tan (270^\circ - A) = \cot A.$$

$$(b) \quad \cos^4 x - \sin^4 x = \cos 2x.$$

8. (a) Show that there is no triangle with the parts:—

$$a = 3.15, \quad b = 2.34, \quad B = 79^\circ 20'.$$

(b) Solve completely the triangle:—

$$a = 31.5, \quad b = 23.4, \quad C = 21^\circ 20'.$$

TABLE.

L sin $79^\circ 20'$	= 9.9924301	log 3.15	= .4983106
L cos $79^\circ 20'$	= 9.2673945	log 2.34	= .3692159
L tan $79^\circ 20'$	= 10.7250356	log 2.345	= .3701428
L sin $21^\circ 20'$	= 9.5608546	log 5.49	= .7395723
L tan $21^\circ 20'$	= 9.5916812	log 1.2908	= .1108590
L tan $38^\circ 4'$	= 9.8938511	log 1.2909	= .1108926
L tan $38^\circ 5'$	= 9.8941114	log 8.1	= .9084850
L sin $41^\circ 15'$	= 9.8191133	log 2.2513	= .3524334
L sin $41^\circ 16'$	= 9.8192573	log 2.2514	= .3524527

Department of Education, Ontario.

Annual Examinations, 1910.

HONOUR AND SCHOLARSHIP MATRICULATION.

LATIN AUTHORS, GRAMMAR, AND SIGHT TRANSLATION.

Examiners: { A. CARRUTHERS, M. A.
G. W. MITCHELL, M.A.
E. T. OWEN, M.A.

A.

1. Translate into English :—

(a) ‘ O socii (neque enim ignari sumus ante malorum),
o passi graviores, dabit deus his quoque finem.
vos et Scyllaeam rabiem penitusque sonantes
accestis scopulos; vos et Cyclopa saxa
5 experti: revocate animos, maestumque timorem
mittite; forsitan et haec olim meminisse iuvabit.’

(b) Rectius vives, Licini, neque altum
semper urgendo neque, dum procellas
cautus horrescis, nimium premendo
litus iniquum.

5 auream quisquis mediocritatem
diligat, tutus caret obsoleti
sordibus tecti, caret invidenda
sobrius aula.

saepius ventis agitur ingens
10 pinus et celsae graviore casu
decidunt turres feriuntque summos
fulgura montes.

(c) Non omnis moriar multaue pars mei
vitabit Libitinam: usque ego postera
crescam laude recens; dum Capitolium
scandet cum tacita virgine pontifex,
5 dicar, qua violens obstrepat Aufidus
et qua pauper aquae Daunus agrestium
regnavit populorum, ex humili potens
princeps Aeolium carmen ad Italos
deduxisse modos.

[OVER]

2. In 1 (a), what is the reference in *rabiem* (l. 3), and in *scopulos* (l. 4)? Under what circumstances were these lines spoken? Parse *ante* (l. 1.)

3. Scan the first line of 1 (a) and the second line of 1 (c), naming the respective metres.

4. What two words in 1 (b) would serve as a suitable title for the Ode?

5. In 1 (c), write brief notes on *Libitinam* (l. 2), *Capitolium* (l. 3), *Aeolium*, *Italos* (l. 8). Explain the case of *populorum* (l. 7), and of *princeps* (l. 8),

6. In what relation does the Ode, 1 (c), stand to the first three books? What is your opinion of the taste displayed by Horace in this ode?

B.

7. Translate into English:—

(a) Palus erat non magna inter nostrum atque hostium exercitum. Hanc si nostri transirent, hostes expectabant; nostri autem, si ab illis initium transeundi fieret, ut impeditos adgrederentur, parati in armis erant. Interim proelio
5 equestri inter duas acies contendebatur. Ubi neutri transeundi initium faciunt, secundiore equitum proelio nostris, Caesar suos in castra reduxit. Hostes protinus ex eo loco ad flumen Axonam contenderunt, quod esse post nostra castra demonstratum est.

(b) Quamquam quid ego te invitem, a quo iam sciam esse praemissos, qui tibi ad Forum Aurelium praestolarentur armati? Cui sciam pactam et constitutam cum Manlio diem? A quo etiam aquilam illam argenteam, quam tibi ac tuis
5 omnibus perniciosam confido ac funestam futuram, cui domi tuae sacrarium scelerum tuorum constitutum fuit, sciam esse praemissam? Tu ut illa carere diutius possis, quam venerari ad caedem proficiscens solebas, a cuius altaribus saepe istam impiam dexteram ad necem civium
10 transtulisti?

(c) Nam tum, cum ex urbe Catilinam ejiciebam (non enim iam vereor hujus verbi invidiam, cum illa magis sit timenda, quod vivus exierit), sed tum, cum illum exterminari volebam, aut reliquam coniuratorum manum simul
5 exituram aut eos, qui restitissent, infirmos sine illo ac debiles fore putabam.

(d) Volturcius vero subito literas proferri atque aperiri iussit, quas sibi a Lentulo ad Catilinam datas esse dicebat. Atque ibi vehementissime perturbatus Lentulus, tamen et signum et manum suam cognovit. Erant autem scriptae
5 sine nomine, sed ita : “ Quis sim, scies ex eo, quem ad te misi. Cura, ut vir sis, et cogita quem in locum sis progressus, et vide ecquid iam tibi sit necesse. Et cura, ut omnium tibi auxilia adiungas, etiam infimorum.”

8. In 7 (a), comment on the mood of *transirent* (l. 2), the subject of *contendebatur* (l. 5), and the case of *quod* (l. 8).

9. In 7 (b), explain the mood of *invitem* (l. 1), *sciam* (l. 3), *confido* (l. 5), *possis* (l. 7); mark *all long vowels* in *praestolarentur* (l. 2), *confido* (l. 5), *futuram* (l. 5), *proficiscens* (l. 8).

10. In 7 (c), explain the mood and tense of *ejiciebam* (l. 1), *exierit* (l. 3), *restitissent* (l. 5.)

11. In 7 (d), change to indirect discourse “*Quis sim infimorum.*”

12. State the circumstances under which the two speeches (I. and III.) against Catiline were delivered, and give concisely the argument of *one* of them.

C.

13. Translate into English :—

Vercingetorix, priusquam munitiones ab Romanis perficiantur, consilium capit, omnem ab se equitatum noctu dimittere. Discedentibus mandat, ut suam quisque eorum civitatem adeat omnesque, qui per aetatem arma ferre possint, ad bellum cogant; sua in illos merita proponit obtestaturque, ut suae salutis rationem habeant neu se de communi libertate optime meritum hostibus in cruciatum dedant. Quod si indiligentiores fuerint, milia hominum delecta octoginta una secum interitura demonstrat. Ratione inita se exigue dierum triginta habere frumentum, sed paulo etiam longius tolerare posse parcendo. His datis mandatis, qua opus erat intermissum, secunda vigilia silentio equitatum mittit. Frumentum omne ad se referri iubet; capitis poenam iis, qui non paruerint, constituit: pecus, cuius magna erat copia ab Mandubiis compulsa, viritim distribuit; frumentum parce et paulatim metiri instituit.

Department of Education, Ontario.

Annual Examinations, 1910.

HONOUR AND SCHOLARSHIP MATRICULATION.

LATIN COMPOSITION.

Examiners : { A. CARRUTHERS, M.A.
G. W. MITCHELL, M.A.
E. T. OWEN, M.A.

A.

Translate into Latin:—

1. There was no doubt in the minds of the Helvetii that Orgetorix had committed suicide.
2. The Helvetii could not be persuaded to stay in their own country.
3. Caesar was persuaded that the enemy would attack him if he should attempt to cross the river.
4. Caesar's unexpected appearance on the bank of the river prevented the Germans from carrying out their intentions.
5. Labienus hoped to reach the river before the enemy knew of his whereabouts.
6. I shall tell him what I was wishing, so that he may not think that I was privy to the conspiracy.
7. I told him to whom I was writing, so that he did not suspect me of treachery.
8. We must reach the camp before nightfall, for I am afraid the reinforcements from Rome have come to grief at the hands of the enemy.
9. The Greek general assembled his soldiers, and made the following speech:—"Do not imagine that this is the army which conquered Gaul and Germany. The forces which you see before you are recruits (*tiro, -onis*). Have you not heard that regiments have been manufactured at Brundisium out of the wounded (*saucius*) that had been left behind?" (*Use indirect discourse throughout the passage within quotation marks.*)

[OVER]

B.

Translate into Latin :—

On the very day on which the Senate was deliberating whether they ought to summon back the ¹Master of the Horse to Rome, news was brought that he had led out the troops which had been left in the camp, and in a battle with the Germans had suffered a great disaster. The Dictator would not even wait to learn what the Senate determined, but hurried back to the camp. The Master of the Horse, summoned before the tribunal,² was asked why he, to whose care the safety of the Roman people had been entrusted,³ had without the orders of the Dictator led into battle the legions which he had been ordered to keep within the camp. The only reply he could make was that he had thought to use the legions which he commanded for the good of the Roman people whenever an opportunity offered.

¹*Magister equitum.*

²*tribunal, n.*

³*committo.*

Department of Education, Ontario.

Annual Examinations, 1910.

HONOUR AND SCHOLARSHIP MATRICULATION.

FRENCH AUTHORS, GRAMMAR, AND SIGHT TRANSLATION.

Examiners: { J. H. CAMERON, M.A.
J. N. DALES, M.A.
L. E. HORNING, PH.D.

A.

1. Translate into English:—

On pense bien si notre chèvre était heureuse ! Plus de corde, plus de pieu... rien qui l'empêchât de gambader, de brouter à sa guise... C'est là qu'il y en avait de l'herbe ! jusque par-dessus les cornes !... Et quelle herbe ! savoureuse, fine, dentelée, faite de mille plantes... C'était bien autre chose que le gazon du clos. Et les fleurs donc !... De grandes campanules bleues, des digitales de pourpre à longs calices, toute une forêt de fleurs sauvages débordant de suc capiteux !...

La chèvre blanche, à moitié soûle, se vautrait là dedans les jambes en l'air et roulait le long des talus, pêle-mêle avec les feuilles tombées et les châtaignes... Puis, tout à coup elle se redressait d'un bond sur ses pattes. Hop ! la voilà partie, la tête en avant, à travers les maquis et les buissières, tantôt sur un pic, tantôt au fond d'un ravin, là-haut, en bas, partout... On aurait dit qu'il y avait dix chèvres de M. Seguin dans la montagne.

2. Give in full the present indicative of *faite*, *partie*, *dit*; and the first person present subjunctive of the same.

3. Explain the use of the subjunctive in *empêchât*.

B.

4. Translate into English:—

Parente fort éloignée, sans doute... mais enfin, cousine de la duchesse de Marlborough, de la surintendante de la reine, qui, dans sa sévère impartialité, hésite et se demande si elle est

[OVER]

d'assez bonne maison pour approcher Sa Majesté. Vous comprenez, madame, que pour moi, qui suis un écrivain usé et passé de mode, il y aurait dans le récit de cette aventure de quoi me remettre en vogue auprès de mes lecteurs, et que le journal *l'Examineur* aurait beau jeu dès demain à s'égayer sur la noble duchesse, cousine de la demoiselle de boutique... Mais rassurez-vous, madame, votre amitié est trop nécessaire à votre jeune parente, pour que je veuille la lui faire perdre ; et à la condition qu'elle sera aujourd'hui admise par vous dans la maison de Sa Majesté, je m'engage sur l'honneur à n'avoir jamais rien su de cette anecdote, quelque piquante qu'elle soit... J'attends votre réponse.

5. By whom are these words spoken ? Explain the allusions to the persons mentioned, and to the *Examineur*.

6. Give in full the present indicative of *veuille*, *admise*, *su* ; and the present subjunctive of *remettre*, *su*, *attends*.

C.

7. Translate into English :—

(a) ... Le navire resta silencieux pendant quelque temps, et nous n'entendîmes que le bruit du vent dans la mâture et le clapotement de l'eau contre la carène ; mais peu à peu il s'anima ; des pas retentirent sur le pont ; on laissa tomber des cordages ; des poulies grincèrent, il y eut des enroulements et des déroulements de chaîne ; on vira au cabestan ; une voile fut hissée ; le gouvernail gémit et tout à coup le bateau s'étant incliné sur le côté gauche, un mouvement de tangage se produisit :—nous étions en route, j'étais sauvé.

Lent et doux tout d'abord, ce mouvement de tangage ne tarda pas à devenir rapide et dur, le navire s'abaissait en roulant, et brusquement de violents coups de mer venaient frapper contre son étrave ou contre son bordage de droite.

(b) Tantôt nous marchions dans des routes bordées de murs de chaque côté, tantôt dans des chemins ombragés par d'énormes châtaigniers dont l'épais feuillage, interceptant l'air et la lumière, ne laissait pousser sous son couvert que des mousses veloutées. A chaque pas, dans ces routes et dans ces chemins, s'ouvrait une grille en fer ou une barrière en bois, et alors on apercevait des allées de jardin bien sablées, serpentant autour de pelouses plantées de massifs d'arbustes et de fleurs, puis, cachée dans la verdure, s'élevait une maison luxueuse ou une élégante maisonnette enguirlandée de plantes grimpantes ; et presque toutes, maisons comme maisonnettes, avaient, à travers les massifs d'arbres ou d'arbustes, des points de vue habilement ménagés sur le lac éblouissant et son cadre de sombre montagnes.

8. In both paragraphs of (a) there is a change of tense. Account for it.

9. Explain, *in French*, what you understand by *ce mouvement de tangage*.

10. Explain the meaning and the application of the words, "*Les beaux langes ont dit vrai.*"

D.

11. Translate into English :—

Franklin ne pouvait souffrir les discours oiseux : il pensait avec certains sages que, si la parole est d'argent, le silence est d'or... Lorsque Franklin fut envoyé comme ambassadeur en France, il vint à Paris et descendit à Chaillot, qu'habitait alors le célèbre et infortuné Bailly. Celui-ci crut devoir sans tarder rendre visite à l'hôte illustre qui honorait la commune de sa présence. Il se fait annoncer. Franklin, qui le connaissait de réputation, l'accueille très cordialement et échange avec son visiteur les quelques paroles que la circonstance exigeait. Bailly s'assied auprès du philosophe américain et se tait par discrétion. Une demi-heure se passe et Franklin n'a pas encore ouvert la bouche. Bailly tire sa tabatière et la présente à son voisin, sans mot dire ; celui-ci fait signe de la main qu'il ne prend pas de tabac. L'entrevue muette se prolonge ainsi pendant une heure entière. Bailly se lève enfin et Franklin, transporté d'avoir trouvé un Français qui savait se taire, lui tend la main, serre affectueusement la sienne en s'écriant : "Très bien, monsieur Bailly ! très bien !"

Department of Education, Ontario.

Annual Examinations, 1910.

HONOUR AND SCHOLARSHIP MATRICULATION.

FRENCH COMPOSITION.

Examiners: { J. H. CAMERON, M.A.
J. N. DALES, M.A.
L. E. HORNING, PH.D.

A.

Translate into French :—

1. There are some people who always say “yes”, and others who always say “perhaps.”
2. It is often better to keep what one has than to get something new.
3. Those are the poems which I heard read when I was in Italy.
4. I should like you to show me the house which you have had built.
5. My sister went to the play last night, but she did not enjoy herself.
6. That would not have happened, if the rich had given the poor what they needed.
7. Should you have been able to see us, if we had come here on Thursday?
8. They must have taken the wrong road; they ought to have been here an hour ago.
9. My brother paid twelve thousand francs for the motor-car he bought in London.
10. He was sitting in front of the fire, thinking of all he had suffered.
11. The poor fellow had not eaten for two days; he was weak and hungry.
12. He would not work, he would not even beg; and I was afraid he would die.
13. The two little girls bade each other good morning, and shook hands.
14. I see a gentleman at the door; will you be good enough to show him in?

[OVER]

15. Your young friend has painted a large picture, but I don't think he has succeeded this time.
16. When we get to America we shall at least be able to do as we like.
17. We have no more paper, we cannot write any more.
18. Who is she? Where was she born? Whose daughter is she?
19. I shall not give it to her unless she asks me for it.
20. "Go back to the house," said he to the dog, "we don't want you to come with us."

B.

Translate into French :—

As Abraham was sitting at his tent door, according to his custom, he espied an old man coming towards him, stooping and leaning on his staff, weighed down (*accablé*) by his great age and his long journey. Abraham received him kindly, washed his feet, and caused him to sit down at the table on which he had placed the evening meal. Noticing that the old man ate without asking a blessing (*appeler la bénédiction divine*) on his repast, he asked the stranger why he did not worship the God of heaven. The old man told him that his God was the fire, and that he knew no other. At this reply Abraham was seized with such a transport of anger that he drove the old man out of his tent, and left him exposed to all the dangers of the night.

When the man was gone, God spoke to Abraham, and asked him where the stranger was. "I thrust him out of my tent," said Abraham, "because he did not worship Thee." Then God answered, "I have suffered this man these hundred years, and could'st thou not have endured him for one single night?"

When the voice had ceased speaking, Abraham went out quickly from his tent, and bringing back the stranger again, he gave him (the) hospitality and (a) wise instruction.

Department of Education, Ontario.

Annual Examinations, 1910.

HONOUR AND SCHOLARSHIP MATRICULATION.

GERMAN AUTHORS, GRAMMAR, AND SIGHT TRANSLATION.

Examiners: { J. H. CAMERON, M.A.
J. N. DALES, M. A.
L. E. HORNING, PH. D.

A.

1. Translate into English :—

Daß Gras wuchert zwischen den breiten Fliesen, und in der Morgendämmerung flattern Tausende von Tauben um den freistehenden hohen Turm herum. Auf drei Seiten bist du von Bogengängen umgeben. Unter ihnen sitzt still der Türke mit seiner langen Pfeife, der schöne Griechenknabe lehnt sich an die Säule und betrachtet die aufgerichteten Trophäen, die hohen Masten, Andenken an die verschwundene Macht. Die Flaggen hängen gleich Trauerflor herab. Ein Mädchen ruht dort aus, die schweren Eimer, mit Wasser gefüllt, hat sie hingesezt, das Joch, an welchem sie dieselben getragen hat, ruht auf einer ihrer Schultern; sie lehnt sich an den Siegesmast.

2. Give, with the definite article, the nominative singular and genitive plural of Fliesen, Turm, Bogengängen, Macht, Eimer, Joch.

3. Decline throughout singular and plural, die aufgerichteten Trophäen.

4. Translate into English :—

Die goldne Kette gib mir nicht,
Die Kette gib den Rittern,
Vor deren kühnem Angesicht
Der Feinde Lanzen splittern;
Gib sie dem Kanzler, den du hast,
Und laß ihn noch die goldne Last
Zu andern Lasten tragen.

[OVER]

5. Translate into English :—

Mehrere Tage lang erinnerte ihn seine geschwollene Hand an seine Undankbarkeit und Torheit. Dann aber übertäubte er sein Gewissen und sprach: "Und wenn sie mir die Glashütte und Alles verkaufen, so bleibt mir doch immer der dicke Ezechiel. So lange der Geld hat am Sonntag, kann es mir nicht fehlen."

6. *der dicke Ezechiel*. Write a short explanatory note.

7. Translate into English :—

Auf mehreren Gesimsen von Holz standen Gläser mit durchsichtiger Flüssigkeit gefüllt, und in jedem dieser Gläser lag ein Herz; auch waren an den Gläsern Zettel angeklebt und Namen darauf geschrieben, die Peter neugierig las.

8. Show briefly the connection of the above extract with the story.

9. Translate into English :—

Mürrisch zog er, wenn sie Sonnabends an die Türe pochte, einen Sechsbätzner hervor, schlug ihn in ein Papier und liess ihn hinausreichen durch einen Knecht.

10. Translate into English :—

Er hat mir den Brief herausreichen lassen.

11. Write the third person singular present indicative, the second person singular imperative, and the past participle of the following verbs ;—*erinnerte, sprach, lag, waren, angeklebt, las, vernahm, schlug, sich lehnen*.

12. Compare *wohl, langen, hohen*.

B.

13. Translate into English :—

Man war nach der „Eremitage“ gewallfahrtet, einem zopfigen, vom Zahn der Zeit stark benagten Lustschlößchen eines vergessenen Fürsten aus dem vorigen Jahrhundert. Der Park war verwildert, die Taxuswände standen zwar noch immer, aber da die Schere, die sie einst im Baum gehalten, längst verrostet war, so kamen sie mit jedem Jahr der natürlichen Form wieder näher. Den steinernen Launen und Satyrn waren im Lauf der Zeit ihre Querpfeifen und Becken, auch Arme und Köpfe abhanden gekommen, die Wasserkünste waren verdorben, ausgetrocknet, die Mäuler der Delphine und die

Muschelhörner der Tritonen und die verwitterten Nereiden an dem Marmorbassin starrten trübseelig in eine mit grünen Wasserlinsen bedeckte Pfütze, auf der sich die Enten des Castellans tummelten.

14. Translate into English:—

Stern. O, ich würde mich auch sehr hüten, die verehrten Damen in den Glauben zu versetzen, daß sie es mit einem rechten Philister zu thun haben, dem die Bequemlichkeit über alles geht. Glauben Sie nur, ich möchte für mein Leben gern noch recht jung sein — jünger als meine Jahre, um das Versäumte einzubringen.

15. Translate into English:—

Hohendorf. Verlassen Sie sich darauf, ich werde mein Möglichstes thun, um mein liebes unschuldiges Weibchen von ihrem Paroxysmus zu kurieren; sie soll das scheußliche Gespenst „Eifersucht“ kennen und verabscheuen lernen, spielen Sie — (klopft ihm lächelnd auf die Schulter) nur recht natürlich.

C.

16. Translate into English:—

Mit Schiller starb Deutschlands grösster Dramatiker und der Lieblingsdichter des Volkes. Kein anderer vor ihm und keiner nach ihm hat es bis jetzt gekonnt, das Herz des deutschen Volkes in gleicher Weise zu befriedigen, und dasselbe für die höchsten Ideale zu begeistern.

Mit Goethe starb der grösste deutsche Lyriker, vielleicht der grösste aller Zeiten und aller Völker, und, wie einer unserer eigenen Dichter, Bayard Taylor, sagt, einer der vollkommensten, und universellsten Menschen aller Zeiten.

In Weimar steht die Doppelstatue der zwei Dichter, beide denselben Lorbeerkranz haltend, und überall in der Welt finden wir ihre Denkmäler, aber keines derselben ist unvergänglicher als das Denkmal, welches sie sich selbst in dem Herzen eines jeden Deutschen errichtet haben.

17. Translate into English:—

Es reden und träumen die Menschen viel
Von bessern künftigen Tagen;
Nach einem, glücklichen, goldenen Ziel
Sieht man sie rennen und jagen,
Die Welt wird alt und wird wieder jung,
Doch der Mensch hofft immer Verbesserung.

Department of Education, Ontario.

Annual Examinations, 1910.

HONOUR AND SCHOLARSHIP MATRICULATION.

GERMAN COMPOSITION.

Examiners: { J. H. CAMERON, M.A.
J. N. DALES, M.A.
L. E. HORNING, PH.D.

A.

Translate into German :—

1. Professor Stern was a very awkward man at a party.
2. He almost always broke a glass or a fan.
3. And sometimes he would say good-bye seven times.
4. He seemed to lose all power over himself.
5. And yet the General's daughter liked him very much.
6. The inhabitants of the Black Forest dress most beautifully.
7. The valleys and hills are grand, and the roads fine.
8. Some of the peasants make clocks, and some deal in wood.
9. It is a lovely district in summer, and many strangers visit it.
10. There can be nothing healthier than a daily walk there in August or September.
11. Can you describe the house of the old master-tailor? Where was it?
12. In the little town of Hackelburg, on the square opposite the old church.
13. Was his shop in the same building as his dwelling, or in another part of the town?
14. He was a progressive man, who had reformed his business, but he was going to live and die a tailor.
15. Can you tell the story of the Oriental prince who used to play the flute?
16. He asks if he may go, but tell him that he shall not and must not think of it.
17. She does not care to, and will not, nor can she study so hard every day in the week.

[OVER]

18. You should have been here yesterday, and then you would have been able to do your work to-day.
19. Had I been here last night I should not have given you so much work to do.
20. The weather has changed very much in the last week, and it is now sultry and showery.
21. My mother has been here for a couple of days, and is going to stay three weeks longer at least.
22. The doctor says I must go away for three weeks or a month, live in the mountains and rest.
23. And he also says that I ought to get up at six in the morning or earlier, and take a long walk.
24. Mrs. Eckart made a discovery when she entered her son's study, to see after the stove that was smoking.
25. Jack's arm was not broken, but it was unfit for work, and hurt him terribly every time he touched the spot.

B.

Translate into German :—

Can you tell me, in German, the story of Marie Engelmann and Dr. Eckart? Where did they live? Quite right! And who was the doctor? The son of a tailor! and a Ph.D.! But tailors' sons don't usually attend the University, do they? Oh, he was a very gifted young fellow! That's different. Was he teaching in the High School? And had some lively scholars! Quite likely. Whom, for example? Engelmann! Max Engelmann! Was he a brother of Marie? It was through him that he got acquainted with the family, and especially with the sister! I suppose he had made them a visit to tell of Max's progress, am I right? Of Max's poetry, and other tricks! He must have been clever! And what sort of girl was Marie? Not like her young brother! Explain. She was fond of reading, could bake good cakes, make good coffee, and could do embroidery! But Canadian girls can do that, can't they? And what were Marie's parents like? The father was hen-pecked! In Germany? Unfortunately that is true! Well, did they celebrate their betrothal that summer? There were difficulties! Of what nature? A Hungarian count! A real count? A pretended! Who was he really? A tailor's apprentice! That was no joke for Mrs. Engelmann, but it is a good story, isn't it?

Department of Education, Ontario.

Annual Examinations, 1910.

HONOUR AND SCHOLARSHIP MATRICULATION.

GREEK AUTHORS AND GRAMMAR.

Examiners : { A. CARRUTHERS, M.A.
G. W. MITCHELL, M.A.
E. T. OWEN, M.A.

A.

1. Translate into English :—

(a) Οἱ δ' Ἀθηναῖοι ἀντανήγοντο εἰς τὸ πέλαγος παρα-
τεταγμένοι ἐπὶ δυοῖν. οὕτω δ' ἐτάχθησαν, ἵνα μὴ διέκπλουν
διδοίεν· χεῖρον γὰρ ἔπλεον. αἱ δὲ τῶν Λακεδαιμονίων ἀντι-
τεταγμένοι ἦσαν ἅπασαι ἐπὶ μιᾷ, ὡς πρὸς διέκπλουν καὶ περί-
5 πλουν παρεσκευασμένοι, διὰ τὸ βέλτιον πλεῖν. ὁ δὲ κυβερνήτης
εἶπε τῷ Καλλικρατίδῃ, ὅτι καλῶς ἔχοι ἀποπλεῦσαι· αἱ γὰρ
τριήρεις τῶν Ἀθηναίων πολλῶ πλέονες ἦσαν. Καλλικρατίδας
δὲ εἶπεν ὅτι ἡ Σπάρτη οὐδὲν κάκιον οἰκιοῖτο αὐτοῦ ἀποθανόντος,
φεύγειν δὲ αἰσχρὸν εἶη.

(b) ‘Ἐγὼ, ὦ βουλῇ, νομίζω προστάτου ἔργον εἶναι, ἐὰν ὁρᾷ
τοὺς φίλους ἐξαπατωμένους, μὴ ἐπιτρέπειν. καὶ ἐγὼ οὖν τοῦτο
ποιήσω. καὶ γὰρ οἶδε οἱ ἐφεστηκότες οὗ φασιν ἡμῖν ἐπιτρέψειν,
εἰ ἀνήσομεν ἄνδρα τὸν φανερώς τὴν ὀλιγαρχίαν λυμαινόμενον.
5 ἔστι δὲ ἐν τοῖς καινοῖς νόμοις μηδένα τῶν ἐν τοῖς τρισχιλίοις
ὄντων ἀποθνήσκειν ἄνευ τῆς ὑμετέρας ψήφου, ἐξεῖναι δὲ τοῖς
τριάκοντα θανατοῦν τῶν ἔξω τοῦ καταλόγου ὄντινα ἂν βούλωνται.
ἐγὼ οὖν,’ ἔφη, ‘Θηραμένην τουτονὶ ἐξαλείφω ἐκ τοῦ καταλόγου.
καὶ τοῦτον,’ ἔφη, ‘ἡμεῖς θανατοῦμεν.’

2. In 1 (a) : compare χεῖρον (l. 3), βέλτιον (l. 5), καλῶς (l. 6),
κάκιον (l. 8), αἰσχρὸν (l. 9) ; decline in the plural τριήρεις πλέονες
(l. 7) ; of ἐτάχθησαν (l. 2) and ἀποπλεῦσαι (l. 6) give, in the
same tense and voice, the first person singular of the indica-
tive, subjunctive and optative, the second singular of the
imperative, and the nominative plural (all genders) of the
participle. Parse οἰκιοῖτο (l. 8).

[OVER]

3. In 1 (b): parse ὀρά (l. 1), ἀνήσομεν (l. 4), θανατοῦν (l. 7), ὄντινα (l. 7), βούλωνται (l. 7); explain the syntactical use of the participle ἐξαπατωμένους (l. 2), and the reason for μηδένα (l. 5) (instead of οὐδένα). Who speaks in this passage?

4. Give a brief account of the battle of Aegospotami, and of the manner in which the news of the defeat was received at Athens. When and where was this battle fought?

B.

5. Translate into English:—

(a) “ὦ μοι, ἀναιδείην ἐπιειμένε, κερδαλεόφρον,
 πῶς τίς τοι πρόφρων ἔπεσιν πείθεται Ἀχαιῶν
 ἢ ὁδὸν ἐλθέμεναι ἢ ἀνδράσιν ἱφί μάχεσθαι;
 οὐ γὰρ ἐγὼ Τρώων ἔνεκ’ ἤλυθον αἰχμητῶν
 5 δεῦρο μαχησόμενος, ἐπεὶ οὐ τί μοι αἵτιοί εἰσιν·
 οὐ γάρ πώ ποτ’ ἐμὰς βούς ἤλασαν, οὐδὲ μὲν ἵππους,
 οὐδέ ποτ’ ἐν Φθίῃ ἐριβώλακι βωτιανείρῃ
 καρπὸν ἐδηλήσαντ’, ἐπεὶ ἢ μάλα πολλὰ μεταξύ,
 οὐρεά τε σκιοέοντα θάλασσά τε ἠχήμεσσα.”

(b) τοῖοι ἄρα Τρώων ἡγήτορες ἦντ’ ἐπὶ πύργῳ.
 οἱ δ’ ὥς οὖν εἶδονθ’ Ἑλένην ἐπὶ πύργον ἰοῦσαν,
 ἦκα πρὸς ἀλλήλους ἔπεα πτερόεντ’ ἀγόρευον.
 “οὐ νέμεσις Τρῶας καὶ ἐυκνήμιδας Ἀχαιοὺς
 5 τοιῇδ’ ἀμφὶ γυναικὶ πολὺν χρόνον ἄλγεα πάσχειν·
 αἰνῶς ἀθανάτησι θεῇσ’ εἰς ὧπα ἔοικεν.
 ἀλλὰ καὶ ὧς, τοίη περ εἰσοῦσ’, ἐν νηυσὶ νεέσθω,
 μηδ’ ἡμῖν τεκέεσσί τ’ ὀπίσσω πῆμα λίποιτο.”

(c) ἦ ῥα γυνὴ ταμὶν· ὁ δ’ ἀπέσσυτο δώματος Ἑκτορ
 τὴν αὐτὴν ὁδὸν αὖτις ἐνκτιμένας κατ’ ἀγυιάς.
 εὖτε πύλας ἵκανε διερχόμενος μέγα ἄστρ
 Σκαιάς, τῇ ἄρ’ ἐμελλε διεξίμεναι πεδίονδε,
 5 ἐνθ’ ἄλοχος πολύδωρος ἐναντίῃ ἦλθε θεούσα
 Ἀνδρομάχη, θυγάτηρ μεγαλήτορος Ἡετίωνος,
 Ἡετίων δὲ ἔναιεν ὑπὸ Πλάκῳ ὑληέσση,
 Θήβῃ ὑποπλακίῃ, Κιλίκεσσ’ ἀνδρεσσιν ἀνάσσω·
 τοῦ περ δὴ θυγάτηρ ἔχεθ’ Ἑκτορι χαλκοκορυστῇ·

6. In 5 (a): scan the last two lines. What words in the first three lines originally had the digamma? Parse ἐπιειμένε (l. 1), πείθεται (l. 2), ἐλθέμεναι (l. 3). Who is the speaker and to whom is he speaking?

7. In 5 (b) : parse ἦντ' (l. 1), θεῆσ' (l. 6), νεέσθω (l. 7), λίποιτο (l. 8).

8. In 5 (c) : explain the case of Ἡετίων (l. 7). Name in order the several persons whom Hector meets in the city, as mentioned in Book VI of the Iliad.

C.

9. Translate into English :—

(a) οὐ γὰρ Φαιήκεσσι μέλει βιὸς οὐδὲ φαρέτρη,
ἀλλ' ἴστοι καὶ ἑρετμὰ νεῶν καὶ νῆες εἶσαι,
ἦσιν ἀγαλλόμενοι πολιὴν περόωσι θάλασσαν.
τῶν ἀλεείνω φῆμιν ἀδευκέα, μή τις ὀπίσσω
5 μωμεύῃ· μάλα δ' εἰσὶν ὑπερφίαλοι κατὰ δῆμον·
καὶ νύ τις ᾧδ' εἴπησι κακώτερος ἀντιβολήσας·
' τίς δ' ὅδε Ναυσικάα ἔπεται καλὸς τε μέγας τε
ξείνος ; ποῦ δέ μιν εὔρε ; πόσις νύ οἱ ἔσσεται αὐτῇ.
ἦ τινά που πλαγχθέντα κομίσσατο ἥς ἀπὸ νηὸς
10 ἀνδρῶν τηλεδαπῶν, ἐπεὶ οὐ τινες ἐγγύθεν εἰσὶν·
ἦ τίς οἱ εὐξαμένη πολυάρητος θεὸς ἦλθεν
οὐρανόθεν καταβὰς, ἔξει δέ μιν ἤματα πάντα.

(b) καὶ γὰρ θαῦμα τέτυκτο πελώριον, οὐδὲ ἑώκει
ἀνδρί γε σιτοφάγῳ, ἀλλὰ ῥίῳ ὑλήεντι
ὑψηλῶν ὀρέων, ὃ τε φαίνεται οἶον ἀπ' ἄλλων.
δὴ τότε τοὺς ἄλλους κελόμην ἐρίηρας ἐταίρους
5 αὐτοῦ παρ νηὶ τε μένειν καὶ νῆα ἔρυσθαι,
αὐτὰρ ἐγὼ κρίνας ἐτάρων δυοκαίδεκ' ἀρίστους
βῆν· ἀτὰρ αἴγεον ἀσκὸν ἔχον μέλανος οἴνοιο
ἠδέος, ὃν μοι ἔδωκε Μάρων Ἐυάνθεος υἱός,
ἱρεὺς Ἀπόλλωνος, ὃς Ἰσμαρον ἀμφιβεβήκει,
10 οὔνεκά μιν σὺν παιδὶ περισχόμεθ' ἠδὲ γυναικὶ
ἀζόμενοι· ᾧκει γὰρ ἐν ἄλσει δενδρήεντι
Φοίβου Ἀπόλλωνος. ὁ δέ μοι πόρεν ἀγλαὰ δῶρα·

10. In 9 (b) : parse τέτυκτο (l. 1), ἐρύσθαι (l. 5), περισχόμεθ' (l. 10), πόρεν (l. 12) ; write a note on the use of the tense of ἀμφιβεβήκει (l. 9), and on the origin of the meaning of the word as here used.

11. Briefly sketch the character of Nausicaa as portrayed in the sixth book of the Odyssey.

Department of Education, Ontario.

Annual Examinations, 1910.

HONOUR AND SCHOLARSHIP MATRICULATION.

GREEK COMPOSITION AND SIGHT TRANSLATION.

Examiners: { A. CARRUTHERS, M.A.
G. W. MITCHELL, M.A.
E. T. OWEN, M.A.

A.

Translate into Greek :—

1. The Athenians, on hearing that the number of the enemy's ships was much increased, were so discouraged that they refused to proceed.
2. Although the ships had already sailed, the king was willing to cease from war on condition that the Athenians would promise not to help the Lacedaemonians.
3. If we send soldiers to fight those who have come from Athens, who will remain to guard our own city?
4. I answered that I myself had gone to his house to tell him what those who had been sent by the king had said.
5. If you were to forget that he commanded you not to speak, what answer would you make to your questioners?
6. If they had not been afraid that they themselves would suffer some harm, they would not have dared to make this accusation against me.
7. He said that he hoped to find out how many soldiers would be sent by the king himself, and when they would arrive in the city.
8. They announced that they themselves would attack the army, few though they were.
9. When he came to the camp, the generals bade him go away; for (they said) they were in command now, not he.
10. In order that you might not be afraid that they would harm this man, they sent for you, and told you why they had seized him.

[OVER]

B.

Translate into English :—

(a) Καὶ οἱ Πέρσαι ἀντιπαρετάξαντο πολλαῖς τῶν ἱππέων τάξεσιν. ἔνθα δὴ ὁ Ἀγησίλαος γινώσκων ὅτι τοῖς μὲν πολεμίοις οὐπω παρείη τὸ πεζόν, αὐτῷ δὲ οὐδὲν ἀπείη τῶν παρεσκευασμένων, καιρὸν ἡγήσατο μάχην συνάψαι. εὐθὺς οὖν τὴν μὲν φάλαγγα ἤγεν ἐπὶ τοὺς ἀντιτεταγμένους ἱππέας, ἐκ δὲ τῶν ὀπλιτῶν ἐκέλευσε δέκα θεῖν ὁμόσε αὐτοῖς, τοῖς δὲ πελτασταῖς εἶπε δρόμῳ ὑφηγεῖσθαι, παρήγγειλε δὲ καὶ τοῖς ἱππεύσιν ἐμβάλλειν, ὥς αὐτοῦ τε καὶ παντὸς τοῦ στρατεύματος ἐπομένον. τοὺς μὲν δὴ ἱππέας ἐδέξαντο οἱ ἀγαθοὶ τῶν Πέρσων· ἐπειδὴ δὲ ἅμα πάντα τὰ δεινὰ παρῆν ἐπ' αὐτούς, ἐνέκλιναν, καὶ οἱ μὲν αὐτῶν εὐθὺς ἐν τῷ Πατωκλῷ ποταμῷ ἔπεσον, οἱ δὲ ἄλλοι ἔφευγον.

(b) Ἀκούσασι τοῖς στρατηγοῖς ταῦτα ἔδοξε τὸ στράτευμα συναγαγεῖν· καὶ εὐθὺς φύλακας καταλιπόντες καὶ στρατηγὸν ἐπὶ τοῖς μένουσι, ἐπορεύοντο ἔχοντες ἡγεμόνα τὸν ἀλόντα ἄνθρωπον. ἐπειδὴ δὲ ὑπερέβαλλον τὰ ὄρη, οἱ πελτασταὶ προϊόντες καὶ κατιδόντες τὸ στρατόπεδον οὐκ ἔμειναν τοὺς ὀπλίτας, ἀλλ' ἀνακραγόντες ἔθεον ἐπὶ τὸ στρατόπεδον. οἱ δὲ βάρβαροι ἀκούσαντες τὸν θόρυβον οὐχ ὑπέμειναν, ἀλλ' ἔφευγον. ὅμως δὲ καὶ ἀπέθανον τινες τῶν βαρβάρων, καὶ ἵπποι ἤλωσαν εἰς εἴκοσι, καὶ ἡ σκηνὴ ἡ Τηριβάζου ἔαλω καὶ ἐν αὐτῇ πολλὰ χρήματα.

Department of Education, Ontario.

Annual Examinations, 1910.

HONOUR AND SCHOLARSHIP MATRICULATION.

BOTANY.

Examiners: { F. B. ALLAN, PH.D.
W. C. BAKER, M.A.
R. W. SMITH, PH.D.

NOTE.—*Thirty minutes are to be allowed for Part A.*

PART A.

Identify the submitted plant by means of your text-book, referring it to its proper order, genus and species, and analyze it according to the accompanying schedule.

(Schedule will be found on Pages 2, 3 and 4.)

[OVER.]

SCHEDULE.

NOTE.—Candidates are requested to indicate Class, Sub-Class, and Division thus **X**. Name of Family, Genus and Species must be written in full.

CLASS I.—GYMNOSPERMS.		
CLASS. II.—ANGIOSPERMS.		
SUB-CLASS I.—DICOTYLEDONS.	1. POLYPETALOUS DIVISION,	
	2. GAMOPETALOUS DIVISION,	
	3. APETALOUS DIVISION,	
SUB-CLASS II.—MONOCOTYLEDONS.	1. SPADICEOUS DIVISION,	
	2. PETALOIDEOUS DIVISION,	
	3. GLUMACEOUS DIVISION,	
Family		
Genus		
Species.		

ROOT	Origin	LEAF	Division.....
	Form		Position.....
	Colour		Arrangement.....
	Duration		Stipulation.....
	Position.....		Insertion.....
STEM	Class		Outline
	Attitude		No. of leaflets, if any.....
	Texture.....		*Texture.....
	Position		*Colour
	Shape		*Size.....
	Juice		*Venation.....
	Branching.....		*Margin.....
	Height.....		*Apex
	Duration		*Base.....
	Surface		*Surface
			*Applicable to leaflets if leaf is compound.
INFLORESCENCE	Mode.....	Variety	

SCHEDULE—(Continued).

THE FLOWER.				
ORGAN.	No.	COHESION.	ADHESION.	NOTES OF FORM, AESTIVATION, COLOUR.
Perianth. <i>Leaves.</i>				
Calyx. <i>Sepals.</i>				
Corolla. <i>Petals.</i>				
Stamens. <i>Filaments.</i> <i>Anthers.</i>				
Pistil. <i>Stigmas.</i> <i>Styles.</i> <i>Carpels.</i> <i>Ovary-cells.</i>				

Department of Education, Ontario.

Annual Examinations, 1910.

HONOUR AND SCHOLARSHIP MATRICULATION.

BOTANY.

Examiners: { F. B. ALLAN, PH.D.
W. C. BAKER, M.A.
R. W. SMITH, PH.D.

PART B.

1. Describe fully the submitted plant.
2. (a) Draw one-half of the central region of the submitted section together with some of the surrounding cells, as seen under high magnification, and name all the tissues shown in your drawing.
(b) How do you know from what part of the plant the section was taken?
3. Describe the structure of an ordinary leaf, and show how its different parts are related to the work of the leaf.
4. (a) Describe the structure of the club-moss (*Lycopodium*).
(b) Make clear how a club-moss differs from a true or common moss, and why it is regarded rather as related to the ferns.
5. Give an account of the various ways in which the hairs of plants may be useful to them.

Department of Education, Ontario.

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HONOUR AND SCHOLARSHIP MATRICULATION.

CHEMISTRY.

Examiners: { F. B. ALLAN, PH.D.
W. C. BAKER, M.A.
R. W. SMITH, PH.D.

1. Describe a commercial or a laboratory preparation for (a) calcium carbonate, (b) iodine, (c) sodium hydroxide, (d) zinc sulphide, and (e) acetylene.

2. Group the following elements as they are found in Mendeljeff's table:—calcium, magnesium, aluminium, lead, barium, potassium, nickel, iron, zinc and sodium.

Of the elements in the above list,

- (a) Which have sulphates insoluble in water?
- (b) Which have carbonates insoluble in water?
- (c) Which have chlorides insoluble in water?
- (d) Which have hydroxides insoluble in water?

Give formulae for the sulphates, carbonates, chlorides, and hydroxides referred to in (a), (b), (c), and (d) above.

3. (a) $2\text{HI} \rightleftharpoons \text{H}_2 + \text{I}_2.$

The above equation represents a system of three substances in equilibrium. What would be the effect of increasing the concentration of each substance separately? What information is given in this equation as to the amount of hydrogen and iodine present at any given temperature?

(b) $\text{water} \rightleftharpoons \text{steam}.$

In the system at equilibrium represented by this equation, what would be the effect of increasing the amount of water present without changing the temperature or pressure?

4. One hundred cubic centimetres of water is allowed to evaporate in the open air in a dish of given size and shape. State clearly the conditions that affect the rate of the reaction, and how they affect it.

What are the conditions that affect the rate of solution of solids in water?

[OVER]

5. Write the formulae for :—barium nitrate, bismuth chloride, phosphoric acid, calcium phosphate, sodium arseniate, antimony sulphide, crystallized copper sulphate, arsenious oxide, ammonium iodide, crystallized ferrous sulphate, bromine, ozone, silica, boron chloride.

6. On being heated, 100 grams of magnesium carbonate (MgCO_3) gave 47.8 grams of magnesium oxide (MgO) and 28.9 litres of carbon dioxide measured at 20°C and 750mm. Calculate the equation to represent the reaction.

($\text{Mg} = 24.4$, $\text{C} = 12$, $\text{O} = 16$.)

Department of Education, Ontario.

Annual Examinations, 1910.

HONOUR AND SCHOLARSHIP MATRICULATION.

ZOOLOGY.

Examiners: { F. B. ALLAN, PH.D.
W. C. BAKER, M.A.
R. W. SMITH, PH.D.

1. (a) Draw a ventral view of the anterior half of the submitted animal.

(b) Cut open the body near the mid-dorsal line, and spread out and pin the sides of the body-wall, and make a drawing of the anterior half of the animal in this position.

(The drawings should be made about twice life-size and all the parts represented should be named.)

2. (a) Compare the circulation of a fish with that of a mammal so as to make clear in each case the structure of the heart, and the relation of the heart and chief blood-vessels to the organs of respiration and to the circulation through the body.

(b) Compare the vertebral column of a frog with that of a fish and show how the differences of structure, articulation, etc. are related to the habits of these animals.

3. Describe the structure of a snail.

State briefly in what respects the fresh-water mussel resembles a snail, and in what respects it differs. Why should they belong to the same division of animals? Of what classes are they respectively representative? Compare their modes of feeding and of respiration.

4. Describe and compare the dentition of a snake, a dog, and a sheep, and show in each case how the teeth are adapted in form and arrangement to the functions they have to perform.

Department of Education, Ontario.

Annual Examinations, 1910.

HONOUR AND SCHOLARSHIP MATRICULATION.

MEDIÆVAL AND MODERN HISTORY.

Examiners: { W. J. ALEXANDER, PH.D.
E. J. KYLIE, M.A.
J. F. MACDONALD, M.A.

NOTE.—*Only six questions are to be attempted.*

1. Describe the career and influence of Pope Gregory I (Gregory the Great).
2. Describe a feudal estate in the Middle Ages, the relations between the lord and his tenants, and their manner of life.
3. Is there any other French sovereign to be compared with Louis IX in character, influence, and success as an administrator? Give reasons for your answer.
4. Show what part the Italian cities played in the revival of learning (The Renaissance).
5. From the career of Martin Luther estimate the character of religious feeling and opinions in Germany during the early years of the sixteenth century.
6. Show how Richelieu increased the strength of France at home and abroad.
7. Describe the career, aims, and methods of Frederick the Great. What were his relations with England?
8. Describe the unification and expansion of Germany in the nineteenth century. Illustrate your answer with a map.
9. What part has the City of London taken in the history of England?
10. Compare Henry II and Edward I as kings of England.
11. Describe the Civil War between Charles I and the Parliament. Illustrate your answer with a map.
12. How far did sea-power contribute to the defence and expansion of the British Empire from 1688 to 1815?

Department of Education, Ontario.

Annual Examinations, 1910.

HONOUR AND SCHOLARSHIP MATRICULATION.

PROBLEMS.

(Scholarship Candidates Only.)

Examiners: $\left\{ \begin{array}{l} \text{A. T. DeLury, M.A.} \\ \text{W. Findlay, Ph.D.} \\ \text{W. J. Patterson, M.A.} \end{array} \right.$

1. Find the general solution of:—

$$\sin(x - y) = \cos(x + y),$$

2. The angular elevation of the top of a steeple at a place due south of it is 45° , and at a place due west of the former station and at a distance a feet from it the elevation is 15° . Show that the height of the steeple is

$$\frac{a}{2} \left(3^{\frac{1}{4}} - 3^{-\frac{1}{4}} \right) \text{ feet.}$$

3. Show that the area of a circle lies in magnitude between the area of the inscribed regular polygon of n sides, and that of the circumscribed regular polygon of the same number of sides, and thence deduce the formula for the area of a circle in terms of the radius.

4. If a_r be the coefficient of x^r in the expansion of $(1+x)^n$, n being a positive integer, prove that

$$\begin{aligned} & (a_0 + a_1)(a_1 + a_2)(a_2 + a_3) \dots (a_{n-1} + a_n) \\ &= a_1 a_2 a_3 \dots a_n \cdot \frac{(n+1)^n}{n}. \end{aligned}$$

5. Prove algebraically that the difference of the squares of the tangents from the point (x_1, y_1) to the circles

$$x^2 + y^2 + 2g_1x + 2f_1y + c_1 = 0; \quad x^2 + y^2 + 2g_2x + 2f_2y + c_2 = 0$$

is equal to twice the rectangle contained by the distance between the centres of the circles and the length of the perpendicular from (x_1, y_1) upon their radical axis.

[OVER]

6. Three circles touch one another at a common point. Prove that the polars of a fixed point, (x_1, y_1) , with respect to these circles are concurrent.

7. The inscribed circle with centre O to the triangle ABC touches the sides BC, CA, AB in X, Y, Z , respectively; the escribed circle with centre O_1 touches these sides in X_1, Y_1, Z_1 , respectively, with similar notation for the escribed circles with centres O_2, O_3 .

(a) Prove OZ, O_1Y_1, O_2X_2 concurrent.

(b) Write other sets of three concurrent radii of contact which belong to different circles.

8. In a given straight line find a point such that the tangent from it to a given circle may be equal to its distance from a given point.

9. (a) Effect a geometrical construction to divide a given line into two parts such that the squares described on the parts shall be to one another in the ratio of 3 : 5.

(b) Show how to construct geometrically an angle of 9 degrees.

10. If
$$\frac{a^{\frac{1}{n}} - mb^{\frac{1}{n}}}{a^{\frac{1}{n}} + mb^{\frac{1}{n}}} = \frac{a^{\frac{1}{2n}} - m(a-b)^{\frac{1}{2n}}}{a^{\frac{1}{2n}} + m(a-b)^{\frac{1}{2n}}},$$
 find the ratio $a : b$.

11. If $s_1 = 1 + \frac{1}{2^n} + \frac{1}{3^n} + \frac{1}{4^n} + \dots$ ad infin.,

and $s_2 = 1 - \frac{1}{2^n} + \frac{1}{3^n} - \frac{1}{4^n} + \dots$ ad infin.,

show that $s_1 : s_2 :: 2^{n-1} : (2^{n-1} - 1)$, it being supposed that n is greater than 1.

12. A square is divided into 16 equal squares by vertical and horizontal lines. In how many ways can 4 of these squares be painted red, 4 blue, 4 white, and 4 black, without repeating the same colour in the same vertical or horizontal row?

Department of Education, Ontario.

ANNUAL EXAMINATIONS, 1910.

COMMERCIAL SPECIALISTS.

BOOK-KEEPING—THEORY.

1. (a) Define Prime Cost, and Factory Cost.

(b) Show a skeleton form of Manufacturing Account suitable for a factory in which it is possible to know the detailed cost of every article manufactured. Explain the significance of each debit and credit.

(c) Name the special books and forms necessary for cost-accounting in a candy manufacturer's business with three departments,—cream, chocolate, and general candy.

(d) Explain in detail the records you would keep of materials purchased and used.

2. (a) Outline a system of books for a city retail corner grocery store.

(b) Explain the different methods of recording transactions with the Bank. Which would you advise in (a) ?

3. (a) Define and indicate your methods of dealing with (i) Cumulative Preference Stock. (ii) Good Will.

(b) The Anderson Co., Limited, takes over the business of R. Hamilton for \$525,000, giving him 2,750 shares of Common Stock, 1,250 shares of 6% Preference Stock, and \$125,000 Cash.

The Assets consist of Land and Buildings, \$80,000 ; Plant and Machinery, \$210,000 ; Stock-in-Trade, \$185,000 ; Bills Receivable, \$155,000 ; Accounts Receivable, \$100,000. The Liabilities are:—Accounts Payable, \$135,000 ; Bills Payable, \$95,000. Make the necessary Journal entries to transfer the business.

4. Explain the purpose of the following accounts, and illustrate their use by Journal entries:—Suspense, Bad Debts, Reserve for Bad Debts, Contingent and Organization.

[OVER]

5. Rule suitable forms for the following:—Stock Ledger, Wages Sheet, Cost-Ledger Account, and Material Journal. Write brief notes on the use of each.

6. (a) What entries are made by a book-keeper in distributing the profits in a partnership, when the books are kept by (i) Single Entry, (ii) Double Entry.

(b) The London Shoe Company, Limited, has \$24,000 profits. The directors decide to pay a Cash Dividend of 5%, and a Stock Dividend of 4% on the Capital, \$150,000. They also make the following appropriations:—Reserve Fund, \$3,500; Bonus to employees, \$2,400; \$1,200 is written off Organization Account; and the balance left at the credit of Profit and Loss.

Make the entries for the distribution of profits, and for the payment of Dividend and Bonus.

7. (a) Distinguish Paid-up, Subscribed, and Authorized Capital. Would you regard uncalled Stock and unsubscribed Stock as assets? Explain.

(b) Feb. 1.—The Thomas Broom Company was incorporated to-day with an Authorized Capital of \$75,000, divided into 750 shares of \$100 each. Shares were allotted as follows: R. Foster, 100 shares; M. Murphy, 80 shares; H. Buck, 70 shares; D. Thompson, 60 shares; C. Cain, 50 shares. A call of 40% was payable on day of allotment, the balance subject to the call of the Directors. Cash was received in full for the above call. Aug. 5th.—A second call of 25% was made by the Directors, and Cash received for the same.

(c) Make Journal entries for the above in such a way that Capital Stock Account will show (i) Paid-up Capital, (ii) Subscribed Capital, (iii) Authorized Capital.

Department of Education, Ontario.

ANNUAL EXAMINATIONS, 1910.

COMMERCIAL SPECIALISTS.

PENMANSHIP.

1. Write rapidly the following lines six times in business hand-writing :—

They soon grow old who grope for gold
In marts where all is bought and sold ;
Who live for self, and on some shelf
In darkened vaults hoard up their pelf ;
Cankered and crusted o'er with mould,
For them their youth itself is old.
If thou art rich, thou'rt poor ;
For like an ass whose back with ingots bows,
Thou bear'st thy heavy burden but a journey,
And death unloads thee.

2. Write neatly in proper form :—

George Peterson, Oshawa, Ont., purchased the following goods from John Macdonald & Co., Toronto:—16 rolls, 640 yards, Brussels Carpet, at \$1.10 ; 12 rolls, 490 yards, Tapestry Carpet, at 85c ; 8 rolls, 420 yards, Axminster Carpet, at 90c ; 15 pieces, 630 yards, Print, at 8c ; 12 pieces, 48 yards, Cashmere, at 36c ; 5 pieces, 268 yards, Gingham, at 12c ; 4 pieces, 232 yards, Flannel, at 38c ; 6 webs, 760 yards, Cotton, at 6c. Terms 5/10, n/60.

3. Write the following ledger headings, using (a) business hand-writing and (b) the marking alphabet :—

- (i) Robinson and Little.
- (ii) Mortgage Payable.
- (iii) Profit and Loss.

4. (a) Write the capitals rapidly four times.

(b) In beginning a series of lessons on the capitals with a First Year class in a High School, what group would you consider first? Outline a series of suitable preliminary exercises for each letter in this group.

(c) Discuss the relative merits of the duplicate forms sometimes used for the capital letters, B, C, H, T, and I.

[OVER]

5. (a) Write the small letters four times rapidly without lifting the pen.

(b) Group these according to the principles involved.

(c) Criticise the duplicate forms sometimes used for the letters, e, r, t, and x.

6. Write the following, engrossing the italicized words :—

This Indenture, made in Duplicate, the Twentieth day of February, one thousand nine hundred and ten, In Pursuance of an Act Respecting Short Forms of Lease.

Between James O'Hara, of the City of St. Thomas, County of Elgin, merchant, the party of the first part,

Department of Education, Ontario.

ANNUAL EXAMINATION, 1910.

COMMERCIAL SPECIALISTS.

MERCANTILE ARITHMETIC.

1. (a) State the relation of each of the following units to the metre, and give their approximate values in terms of English units:— kilometre, hectare, litre, stere, kilogram.

(b) A race track 14 metres wide surrounds a circular field containing 61·1226 hectares. Find the total cost of the track including (i) the value of the land at \$250 per hectare, (ii) the cost of fencing both sides at \$2.50 per dekametre, and (iii) the cost of gravelling its surface to a depth of 2 decimetres at 60 cents a stere.

2. A municipality borrows \$25,000 for 20 years. What sum would be saved annually by adopting the better of the following methods of payment?

(a) To repay the amount borrowed in 20 equal annual instalments the rate of interest being 5% per annum.

(b) To pay the interest annually at $4\frac{1}{2}\%$, and create a sinking fund, to be invested at 4% per annum, payable half-yearly, to meet the principal at the end of the term.

$$(1\cdot05)^{20} = 2\cdot65330.$$

$$(1\cdot02)^{40} = 2\cdot20805.$$

3. For what sum must a note be drawn on Jan. 1, 1910, to cover the balance of the following account, and interest at 6% from the equated date?

<i>Dr.</i>				<i>A. McAdam.</i>				<i>Cr.</i>			
1909								1909			
May	6	To Mdse.	30 days	700	00	June	1	By Cash	700	00	
May	24	To Mdse.	30 days	360	00	June	24	By Cash	600	00	
June	4	To Mdse.	30 days	400	00	July	1	By Cash	240	00	
June	27	To Mdse.	30 days	560	00						

[OVER]

4. A commission merchant sells 20 sides Green Pork, 94 lbs. each, at 13 cents per lb.; 124 pails Lard, 12 lbs. each, at 15 cents per lb.; 19 Smoked Hams, 15 lbs. each, at 18 cents per lb. He paid freight at 10 cents per cwt. and deducted his commission of 2% on sales. He receives instructions to invest the proceeds in tea at 28 cents per lb., to prepay the freight at 14 cents per cwt., and to retain his commission of $1\frac{1}{2}\%$ on purchase. How many pounds of tea did he buy?

5. (a) Prove generally that the difference between the interest and the discount on any sum is equal to the interest on the discount.

(b) Obtain the value of an annuity of \$ A deferred p years, and then continuing q years.

(c) A perpetuity of \$2,400 is bequeathed to A for 8 years, to B for the next 12 years, and to C and his heirs forever after that. If money is worth 6% per annum compounded half-yearly, what is the present value of each gift?

$$1.03^{16} = 1.60471$$

$$1.03^{24} = 2.03279$$

$$1.03^{40} = 3.26194$$

6. For how many years will \$2400 buy an annuity of \$240, money being worth 5% per annum?

$$\text{Log } 1.05 = .0211893, \text{ and } \text{Log } 2 = .3010300$$

7. Find the present worth of a mortgage for \$4,500, bearing interest at 5% per annum having 8 years and 10 months to run, money being worth 6% per annum compounded half-yearly.

$$1.03^{17} = 1.65285.$$

Department of Education, Ontario.

ANNUAL EXAMINATIONS, 1910.

COMMERCIAL SPECIALISTS.

GENERAL COMMERCIAL KNOWLEDGE.

1. (a) Distinguish between negotiable and non-negotiable promissory notes as to :—(i) form, (ii) method of transfer, (iii) rights of holder.

(b) Name three kinds of negotiable paper besides notes and six kinds of non-negotiable paper.

(c) What alterations void a note? What do not?

2. Discuss Mortgages (real estate) under the following heads :—

(a) Ascertaining mortgagor's title to property proposed to be mortgaged.

(b) Registration.

(c) Mortgagee's power at maturity.

(d) Discharge.

(e) Foreclosure.

3. (a) What is a share of stock?

(b) Explain the following terms as applied to stock :—Common, Preferred, Deferred, Watered.

(c) Describe three ways in which stock may be watered.

4. Explain clearly the law relating to cheques as it applies to the following points :—

(a) Issuing cheques without funds to meet them.

(b) Crossed cheques.

(c) When banks may refuse to pay them.

(d) Liability in case of payment of raised or forged cheques.

5. Explain the following terms :—Without prejudice, Devise, Easement, Liquidated damages, Par of exchange, Proxy, Reversion, Set-off, Usury, Waiver.

[OVER]

6. Discuss the Mechanic's and Wage Earner's Lien Act as it applies to :—

- (a) Erection of buildings ;
- (b) Repairing of articles ;
- (c) Woodman's wages.

7. Discuss the relation of master and servant under the following heads :—

- (a) Discharge of servant without notice.
- (b) Wrongful dismissal.
- (c) Master's liability for servant's acts.
- (d) Servant's liability.
- (e) Employer's liability for injuries.

8. (a) An insolvent debtor refuses to make an assignment. How may his creditors secure a distribution of his assets ?

(b) What conveyances by an insolvent debtor are fraudulent ? What are valid ?

Department of Education, Ontario.

ANNUAL EXAMINATIONS, 1910.

COMMERCIAL SPECIALISTS.

AUDITING.

1. You have been auditor for J. Wilson & Co. for the last four years. The concern has lately been incorporated as a Joint Stock Company, and you have been appointed auditor.

(a) To what extent are your duties affected by the change?

(b) How would your method of procedure differ in the annual audit, and what are the principal points that would now require your special attention?

2. You are asked by a firm to give them a good system of keeping Petty Cash. Explain such a system, and state what accounts you would keep.

3. Compare the advantages of a monthly audit over a yearly audit with respect to a Lumber business.

4. As auditor, how far would you hold yourself responsible for the accuracy of the following:—Stock in Trade; Previous Balance Sheet; Pay Sheets; Duties; Commission; Goods in process of manufacture; Loose Tools.

5. (a) What do you consider the essentials of sufficient vouchers for cash payments?

(b) What special dangers have you to guard against when auditing an elaborate Columnar Cash Book?

(c) What provision would you make to avoid the necessity of counting the cash when making an annual audit?

(d) Are cancelled cheques evidence of the discharge of liabilities? Give reasons for your answer.

(e) How would you treat cheques made in favour of a Nominal Account, (stamps, stationery, etc.)?

(f) How would you guard against alterations in the Cash Book after you had examined and checked all the items?

[OVER]

6. Under what circumstances might Good Will be properly created or increased in the accounts of a going concern ?

7. Explain how you would show the following in a Balance Sheet :—

- (a) Reserves for depreciation of Machinery, etc.
- (b) Partly manufactured goods.
- (c) Sinking Fund for redemption of Debentures.
- (d) Mortgages of say \$20,000 on Real Estate, Factory, and Buildings carried on account at \$35,000.

8. The Directors of an Exhibition Association ask you to audit the books of the Secretary and the Treasurer, and prepare them a Statement. The sources of revenue are from yearly membership fees, gate and other receipts at their annual show, donations and silver cups. Those donating a certain sum or a silver cup are given a membership ticket. Exhibitors must be members, and also pay a small fee to enter each exhibit. Prizes in cash and cups are given for best exhibits. The Treasurer has charge of all cash and tickets, and makes all payments by cheque, on the order of the President and the Secretary. The Secretary secures receipts for all cash handed to the Treasurer.

(a) Tell how you would proceed with the audit.

(b) Make out the Statement (showing items) you would submit to the Directors.

(c) Suggest to the Secretary and the Treasurer the best arrangement of books and vouchers to facilitate the next annual audit.

Department of Education, Ontario.

ANNUAL EXAMINATIONS, 1910.

COMMERCIAL SPECIALISTS.

ECONOMICS.

1. (a) What is ideal economy? How is it secured?
(b) What is wealth? From the standpoint of ideal economy, what is the basis for differences in wealth?
2. "Men judge stocks of goods by the final utility of the goods." Explain this statement fully. What relation has this to consumption of goods?
3. What is interest? What determines the margin for the price of loans?
4. (a) What is the relation of wages to cost?
(b) What is the distinction between real and nominal wages?
(c) When do wages tend to become greater?
5. (a) What is value? What are the elements in determining value?
(b) How does value differ from price?
(c) Why does not competition in an ordinary market reduce the value of an article?
(d) What is the limit to prices that a monopoly may charge?
6. "To add to the obstacles already existing to commerce between countries would be the rejection of such economies as have been found to be possible between district and district."
(a) What are the obstacles referred to?
(b) What pretexts have been put forth for the placing of these obstacles?
(c) Show the truth of the latter part of the above statement by referring to the United States and also Canada.

[OVER]

7. Under present conditions do you consider a preferential tariff justifiable from an economic point of view? Give reasons for your answer.

8. To what extent do the principles of Socialism enter into municipal government in Canada? To what extent do you consider such feasible?

9. "So long as there is no great disturbance in the balance of exports and imports, foreign trade is restored to a system of perfected barter."

(a) Explain this statement fully.

(b) Give the function of the modern bank in this barter.

10. "'Dumping' is a recognized canon of good management in all businesses concerned with the sale of merchandise."

Discuss this statement fully, and show the attitude of Canada to "Dumping."

Department of Education, Ontario.

ANNUAL EXAMINATIONS, 1910.

COMMERCIAL SPECIALISTS.

STENOGRAPHY—THEORY.

1. (a) Give rules for writing combinations of consonants in their normal position with regard to the line.

(b) Give rules for varying the position to indicate the principal vowel or diphthong.

(c) How are these rules modified when applied to half length or double length strokes?

Illustrate by examples.

2. How is the termination “tion” expressed in shorthand? Give fully the rules for writing it.

3. (a) What consonants are not hooked initially for “l” and “r”?

(b) Show what use is made of these strokes when hooked initially.

(c) Give rules for writing by the right or left those that are used as alternative forms.

4. (a) In what different ways is the sound of “h” represented?

(b) When should each method be used?

(c) How is stroke “h” used medially?

5. (a) What are dissyllabic diphthongs?

(b) Make a table showing the shorthand characters representing them.

(c) Illustrate the use of each by an example.

6. Write the following, using only logograms:—

As has been remarked, he did not at first think it of weight or significance that several of those who thought evil of him—it may have been a third of them—often tried in secret with much art, out of an evil wish, to put in quite a different light (and that no good one) all he happened to tell them to believe.

[OVER]

7. (a) Write the following words fully vocalized:—glanced, unholy, livid, dockyard, yard, rampart, acquainted, pamper, tincture, Jewish, magnanimity, inspiration, inhospitable, minorities, refinement.

(b) Distinguish by difference of outline the words in the following groups:—

Pursuer, piercer, oppressor, peruser ;

Portray, parterre, aperture, porter, operator ;

Charta, accurate, cruet, accord ;

Astir, estuary, oyster, astray.

8. (a) Write contractions for:—arbitration, dissimilar, exchequer, impracticable, metropolitan, relinquished, sensibility, substitute, unanimous, unquestionably.

(b) Write phraseograms for:—You were not ; by which it has appeared ; I am sure there is ; on this subject ; in connection with ; in the first place ; I am instructed to state ; I have to call your attention ; by return of post ; at first cost.

Department of Education, Ontario.

ANNUAL EXAMINATIONS, 1910.

COMMERCIAL SPECIALISTS.

STENOGRAPHY—PRACTICE.

NOTE.—Each candidate must enclose both his shorthand notes and the transcription.

Before dictating the paper—which the candidates are not to see—the Presiding Officer should read it over to himself and time himself, so as to be able to dictate it at the prescribed rate—60 words per minute. To facilitate this the selections are divided into half-minute sections. For transcription of notes 50 minutes will be allowed.

The Presiding Officer will allow one half minute after reading each selection before beginning the next.

I.

Dear Sir :—

In response to yours making enquiry respecting Mr. Willam Cooper, I would say that he was in my employ nearly ten years. During the first two years he / was corresponding clerk, during the remaining years general manager and purchasing agent. Our business relations terminated last January, on account of the sale of my entire establishment and my retirement // from business I regard Mr. Cooper as a very trustworthy and capable business man, possessed of excellent qualities. During our acquaintance his social standing has been enviable.

(1½ min.)

Yours very respectfully,

II.

Dear Sir :—

Quite unexpectedly, the real estate market has developed a strength at the end of the spring season that was quite absent from it earlier in the year. This / is a greatly increased interest in small investment properties. Last week, for instance, the sensational transactions involving amounts running into the millions were entirely lacking, but there were scores of // purchases by small investors in nearly every section of the city, and of most kinds of real property. Professional real estate men—the brokers, operators, and builders—regard this development / with the greatest satisfaction, for, with the man of small means interested in the market, the active period may be considered prolonged.

We shall be pleased to have you / call at your earliest convenience in regard to the Wellington Street property you were recently talking to us about. It affords an excellent opportunity for a good investment.

(2½ min.)

Yours very truly,

[OVER]

III.

No lien or privilege upon either the real or personal property of the company shall be created for the amount of any judgment debt, or of the interest thereon, by / the issue or delivery to the sheriff of any writ of execution, or by levying upon or seizing under such writ the effects or estate of the company ; nor shall / any lien or privilege be created upon the real or personal property of the company, or upon any debts due or accruing or becoming due to the company // by the filing or registering of any memorial or minute of judgment, or by the issue or making of any attachment or garnishee order or other process or proceeding, if, // before the payment over to the plaintiff of the moneys actually levied, paid or received under such writ, the winding up of the business of the company has actually commenced.

(2½ min.)

IV.

In consideration of the sum of Three Dollars and of the representations, conditions and warranties hereinafter mentioned or referred to, the London Fire Insurance Company of London, Ontario, hereby insures / in manner hereafter appearing, Alexander Robb, Esq., Ingersoll, Ontario, (hereinafter called the assured) against loss or damage by fire to the property hereinafter described (but subject to the conditions and // stipulations contained in this Policy) namely : On household furniture, Three Hundred Dollars, owned by the assured, and contained in house on lot No. 7, Dufferin Street, Ingersoll, Ontario. And it / is hereby agreed and declared between the said Company and the assured that if the property above described, or any portion thereof, shall be destroyed or damaged by fire at // any time between twelve o'clock, noon on the nineteenth of March, 1909, and twelve o'clock, noon on the nineteenth of March, 1910, the Capital Stock, Funds and Property / of the said Company shall, according to the Laws, Regulations and Provisions of the Company alone, be liable to pay or make good unto the assured, his executors, administrators or // assigns, all such immediate loss or damage, to an amount not exceeding the sum above specified, or the interest of the assured therein, subject to conditions printed on this Policy.

(3½ min.)

Department of Education, Ontario.

ANNUAL EXAMINATIONS, 1910.

COMMERCIAL SPECIALISTS.

HISTORY OF COMMERCE AND TRANSPORTATION.

1. Upon what does the commerce of a country depend? Illustrate your answer by special reference to Denmark, Germany, and England.

2. "The centre of the political world was shifted from Greece to Italy, and consequently the conditions of trade considerably altered."

(a) Tell how, and to what extent, these alterations took place.

(b) Give an account of the commercial growth of Rome.

(c) What did the revival of commerce in the Mediaeval Ages owe to Rome?

(d) To what must we ascribe the decline of Rome's commerce?

3. "In the Mediaeval times the commerce of Europe was divided into two great dominions."

(a) What were these dominions?

(b) To what do you ascribe the growth of each?

(c) Were there any commercial relations between these dominions, and if so, how were they carried on?

4. (a) What were the economic effects of Feudalism, and its effects upon Mediaeval commerce generally?

(b) Can we ascribe the commercial growth of any part of Europe to this system, and if so, what part, and how did it come about?

[OVER]

5. "Milan and Milan's history afford an excellent example of the growth of the power of commerce and towns as opposed to feudalism."

(a) Explain fully the above statement, giving the reasons for the commercial growth of the above named city.

(b) How much does our present banking system owe to the Italian commerce of that period?

6. (a) Account for the growth of fairs in the period from the 11th to the 14th centuries.

(b) Where at the present time have we similar fairs?

(c) Do you consider our present market days in our Canadian towns analagous to the above fairs? Give reasons.

(d) What has taken the place of fairs in other parts of the world to-day, and why? What would you expect in the near future?

7. (a) What changes in the Commercial Routes of the world will take place on the completion of the Panama Canal?

(b) What countries will have their commerce most affected and how?

(c) What part of Canada will have its commerce most affected, and why?

8. (a) State fully what you consider will be the effect on the trade between Canada and Germany by the abolition of the surtax on German goods.

(b) What does Germany concede to us?

Department of Education, Ontario.

ANNUAL EXAMINATIONS, 1910.

COMMERCIAL SPECIALISTS.

BOOK-KEEPING—PRACTICE.

1. From the following information obtained from the Elgin Stove Company on Dec. 31, 1909, prepare a Manufacturing Account, Trading Account, Profit and Loss Account, and Balance Sheet:—

Capital Stock, \$100,000 ; Good Will, \$100,000 ; Land and Buildings, \$7,500 ; Cash on hand and in bank, \$1,204·84 ; Sales, \$74,719·10 ; Discounts allowed customers, \$1,193·55 ; Returns from customers, \$382·10 ; Bank for advances, \$5,000 ; Bills Receivable, \$5,503·54 ; Accounts Receivable, \$3,547·62 ; Purchases, \$24,380·00 ; Discounts on Purchases, \$375·57 ; Sundry Creditors, \$1,344·08 ; Mortgage Payable, \$3,750·00 ; Raw Material, \$1,241·50 ; Partly Manufactured Goods, \$1,285·00 ; Manufactured Goods, \$3,748·00 ; Factory Wages, \$14,323·50 ; Taxes, \$80·75 ; Light, Heat, and Power, \$246·00 ; Advertising, \$2,393·00 ; Travellers' Salaries and Expenses, \$3,245·09 ; Freight in, \$485·23 ; Plant and Machinery, \$2,500·00 ; Repairs, \$325·38 ; Interest and Bank Charges, \$1,170·37 ; Reserve Account for depreciation, \$500·00 ; General Expenses, \$922·57 ; Profit and Loss (Surplus Profits carried) \$939·29 ; Salaries:— Office and Warehouse, \$7,700·00 ; Factory Superintendent, \$750·00 ; Management, \$2,500·00.

Goods on hand, Jan. 1, 1910 : Raw Material, \$1,435·00 ; Partly Manufactured, \$980·00 ; Manufactured Goods, \$3,200·00 ; Reserve $2\frac{1}{2}\%$ for Depreciation on Plant and Machinery, and on Land and Buildings. Charge Factory Account \$500 for rent and for five-sixths of Light, Heat, and Power. The Taxes for the year, \$183·00, are unpaid, while the Insurance, \$150·00, was paid on December 1st, 1909.

[OVER]

2. A. and B. form a partnership on Nov. 1st, 1909, for the purpose of conducting a grocery business. Special books of original entry are kept for Cash, Bank, and Bills.

A. invests:—Buildings valued at \$10,000, on which there is a mortgage for \$2,000 dated May 1st, 1909, bearing interest at 6% per annum; Mdse. costing \$3,000, and Store Fixtures costing \$480; a Note against W. Hodson for \$500, dated Oct. 1st, at 2 months, bearing interest at 6%; and accounts against Wm. Carter, \$525.75, and J. Smith, \$285.60; he owes W. Ead \$460 on account.

B. invests:—A Note against P. Holmes, for \$325, dated Aug. 26th, at 3 months; Accounts against H. Roe, \$390, R. Campbell, \$495; his Note in favour of W. Ross, dated Oct. 10th, at 60 days, and his Cheque for a sum sufficient to make their investments equal.

Make the necessary Journal entries to open the books, all Notes to be taken at their actual value, (rate of discount 6%), and 10% to be allowed off Accounts Receivable.

3. Record the following transactions in a Special Column Cash Book, with three special columns on each side. All payments made by cheque unless otherwise specified. Close properly, and bring down the necessary balances:—

June 1.—E. Student commenced business with an investment of \$4,694.50, of which \$4,600 was on deposit in Dominion Bank. Paid J. Still \$3,700 in full for his business. \$3,000 of this was for Mdse., and \$500 for Fixtures. Cash Sales, \$48.75.

June 5.—Gave H. Gray cheque for \$475, covering his account less 5% discount. Received from T. Black his cheque for \$388, in full for his account, less 3%. Discounted J. Foley's Note for \$290.75, due July 12th, at 6%. Proceeds deposited. Paid Rent, \$64, and Stationery \$4.50, with Cash. Drew at sight on J. McNab for his account, \$240.40, and received Credit at the bank less $\frac{1}{4}$ % collection charges. Received cheque for 55 cents on the dollar from K. Scott, assignee of F. Law, for our account against him amounting to \$124.50. Remitted Bank Draft purchased by cheque to Anderson & Co., in full for their account, \$439, less 5%. Exchange $\frac{1}{4}$ %. Cash Sales, \$369.80. Deposited all cash and cheques on hand except \$50, less collection charges 65 cents.

June 10.—Paid sundry expenses in cash, \$14.50. Withdrew \$140 from the bank for private use. The Dominion Bank notified us that J. McNab had dishonored our draft of the 5th inst., and a cheque was issued to retire the same. Prepaid my

note for \$246·10, due July 24, less 6% discount. Donated \$50 to Y.M.C.A. Building Fund. Remitted H. Ross, Liverpool, Bill of Exchange covering their account of £84 16s 8d. Exchange 109¼. Cash Sales, \$297·84.

June 15.—The bank allows us \$11·40 interest on balance to our credit. Withdrew \$160, out of which \$90 was paid on salaries. Cash Sales, \$349·50.

4. A. starts B. in a branch store, with Mdse. on hand \$3,450; Cash, \$64; Accounts Receivable, \$460; Bills Receivable, \$110; Accounts Payable, \$350; Bills Payable, \$200; B.'s salary is to be \$360 per year, and store rent \$96 per year.

After a year and a half A. finds the following conditions existing:—Rent paid \$100, Salary paid \$400, Expenses paid \$175; Mdse. bought, \$4,300; Mdse. sold, \$5,850; Mdse. on hand, \$3,600. A. has withdrawn at different times \$750. Personal Accounts Receivable, \$300; Bills Receivable, \$260; Accounts Payable, \$240; Bills Payable, \$400; Received for Post-Office work, \$250; and for other services \$84; Interest received, \$24. Cash in safe, \$530. What is the present worth of the business, and the Net Gain for the eighteen months? Is the Cash in the safe correct?

Department of Education, Ontario.

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ART SPECIALIST.

FREEHAND SKETCHING.

NOTE.—*One dimension of each drawing should be at least eight inches.*

1. Sketch in soft pencil or crayon the model presented to you. Suggest light and shade.

2. (a) Sketch in silhouette with brush and ink the elm tree pointed out to you.

(b) Sketch in soft pencil the maple tree pointed out to you. Express its growth, colour values, and texture.

3. Sketch in light and shade the view pointed out to you. Use soft pencil, crayon, or charcoal.

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ART SPECIALIST.

FREEHAND DRAWING.

NOTE.—*Candidates may use pencil, crayon, pen and ink, or brush with ink. Drawings must be finished in light and shade. One dimension in each should be at least eight inches.*

1. Draw the objects placed before you.
2. Make an imaginative drawing illustrating "What the wind does."
3. Arrange within a rectangle a group of tree-trunks rising against the sky. Make two sketches of this arrangement, showing, with three values, a summer effect in one composition and a winter effect in the other.
4. State and explain the principles by which a teacher should be governed (*a*) in the selection of objects for a group to be drawn, (*b*) in the arrangement of the group.

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ART SPECIALIST.

CLAY MODELLING.

NOTE.—*Candidates will answer question 1 and any two others.
Measuring tools are not to be used.*

1. Model the cast presented, on a scale to be indicated by the examiner.
2. Make a model of the group of fruit or vegetables presented.
3. Make a suitable model, on a slab 8 inches by 12 inches, to illustrate a lesson on a rocky coast, to include cliffs, a cave, an inlet, and a headland.
4. On a slab 5 inches by 8 inches, model, from memory, a dog in a recumbent position.
5. Model, in bas-relief, a simple, decorative design for a circular space 7 inches in diameter. Any flower motif may be used.

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ART SPECIALIST.

COLOUR DRAWING.

NOTE. — *Use water-colours. In questions 1 and 3 one dimension of each drawing should be at least eight inches.*

1. Paint the flowers and vase submitted. Paint in values with black paint or sepia.

2. In a rectangle, 8 inches wide by 5 inches high, make a decorative composition of the Japanese lanterns submitted.

3. (a) Illustrate the following:—

Leafless are the trees ; their purple branches
Spread themselves abroad, like reefs of coral,
Rising silent—
In the red sea of the winter sunset.

OR

(b) Paint a summer landscape. Show a path or stream, a pool of water, and trees in the foreground and in the distance.

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ART SPECIALIST.

INDUSTRIAL DESIGN.

NOTE.—*Answer question 1 or 2, not both, and any two others, one of which must be in colour.*

1. Write notes of a lesson on “conventionalism of natural forms”, such as you would give to an advanced class of High School pupils.

2. Make, for a tile four inches square, a decorative design that may be made suitable for a woven, an embroidered, or a printed floral pattern. Sketch the natural flower or plant used in making the design, and explain the alterations made in the flower for the pattern, and the reasons therefor.

3. Draw the following, making each example one inch high:—

- (a) Three kinds of rectangular frets.
- (b) A fret on the slant.
- (c) Frets alternating with ornamental panels.

State the surfaces to which these are properly applied and explain the principles involved.

4. Draw two lunettes, diameter $3\frac{1}{2}$ inches, with circular treatment of spacing for general effect of good arrangement, treating one in harmony of analogy and the other in harmony of contrast.

NOTE.—The colour wash need not be absolutely flat; but there should be no shading, nor any attempt at relief: the colour should define the design and not confuse it.

[OVER]

5. An oak bookstand is to be 18 inches long by 6 inches wide. Make a structural design for the end in proper proportion. On it set out a decorative design to be carved in relief. Explain the main principles governing the whole construction.

6. If the circumference of a circle be divided into six equal parts, the points so determined may be joined by straight lines to form a hexagon and two equilateral triangles. Enumerate the elements and principles of ornament which the construction of the figure might illustrate. Colour the figure so drawn to show the relation of the primary, secondary, and the so-called "tertiary", or grayed, colours.

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ART SPECIALIST.

GEOMETRICAL AND MECHANICAL DRAWING.

NOTE.—*Candidates will take only four questions, which must include questions 1 and 2.*

1. (a) Make a freehand perspective drawing of the given crank. Show all construction lines. (See accompanying sheet.)

(b) Draw a square pyramid 6 feet 8 inches high, 3 feet base, with the nearest angle of its base 4 feet to the right and 2 feet in the picture, its sides making angles of 45° with the picture plane. A square slab 7 inches thick is penetrated through its centre by the pyramid. The slab rests in a horizontal position $2\frac{1}{2}$ feet from the ground, its sides are parallel to the edges of the base of the pyramid, and its nearest angle touches the picture plane. Eye 11 feet from the picture plane and 5 feet above the ground plane. Scale $\frac{1}{24}$.

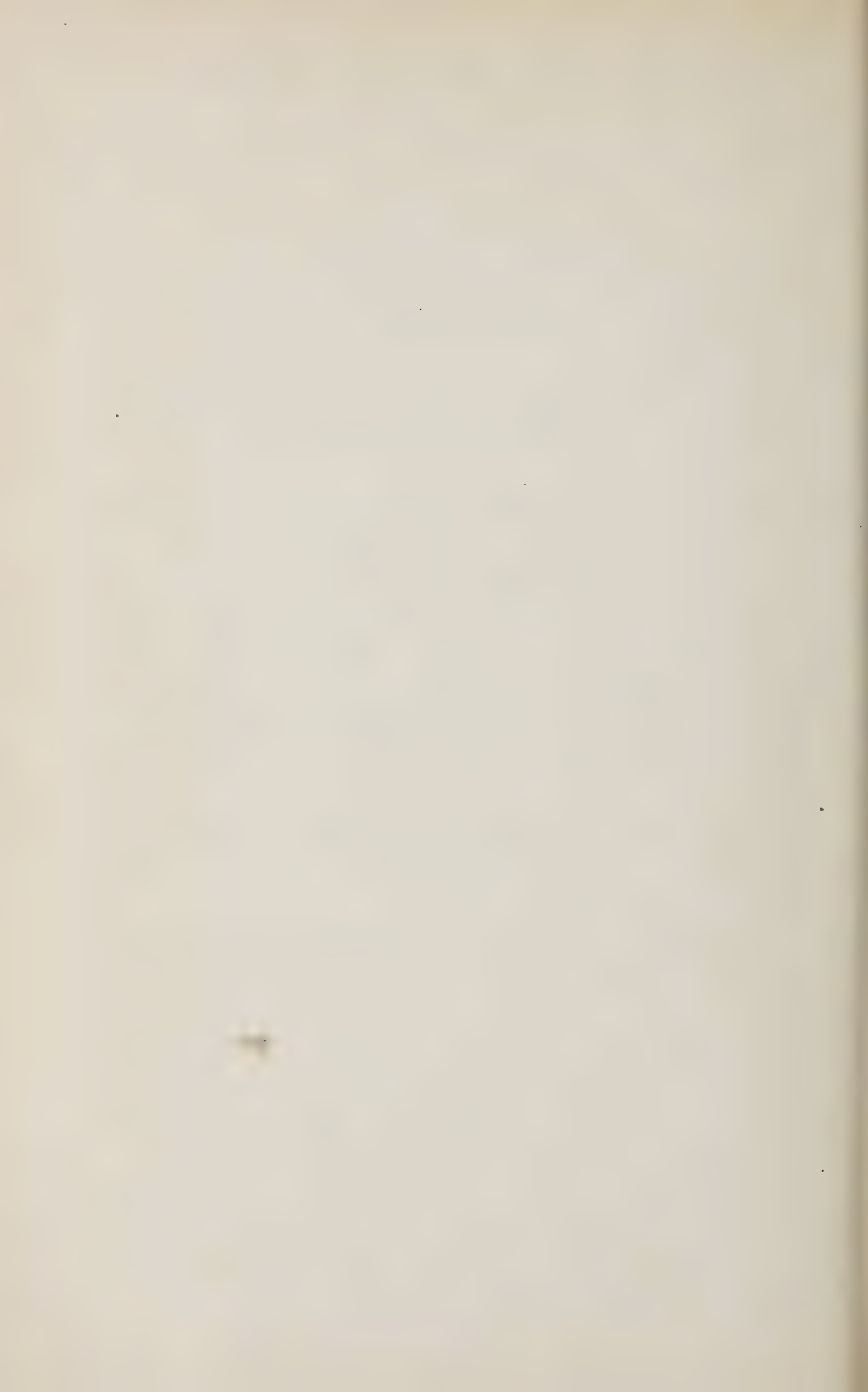
2. Given the plan and elevation of a hollow cube: draw the plan and elevation properly projected from each other. Draw also the true shape of the sections at *AA* and *BB*. Scale full size. (See accompanying sheet.)

3. A line 2 inches long has one end $\frac{1}{2}$ inch high, the plan of the line measures $1\frac{1}{2}$ inches, the elevation $1\frac{3}{4}$ inches. Draw the projections of the line.

4. Explain, as to a class of High School pupils, the system of isometric projection. Compare it with orthographic projection. Illustrate by well-drawn freehand sketches.

5. Construct a scale of chords on a radius of 3.25 inches to read 5° . By means of this scale, plot an angle of 75° .

6. Construct a scale one-fifth full size, by which feet and inches may be measured up to 3 feet. Show also distances of one-eighth by the diagonal method. Finish and figure the scale properly, and show by two small marks on it how you would take off a distance of 1 foot, $7\frac{1}{2}$ inches.



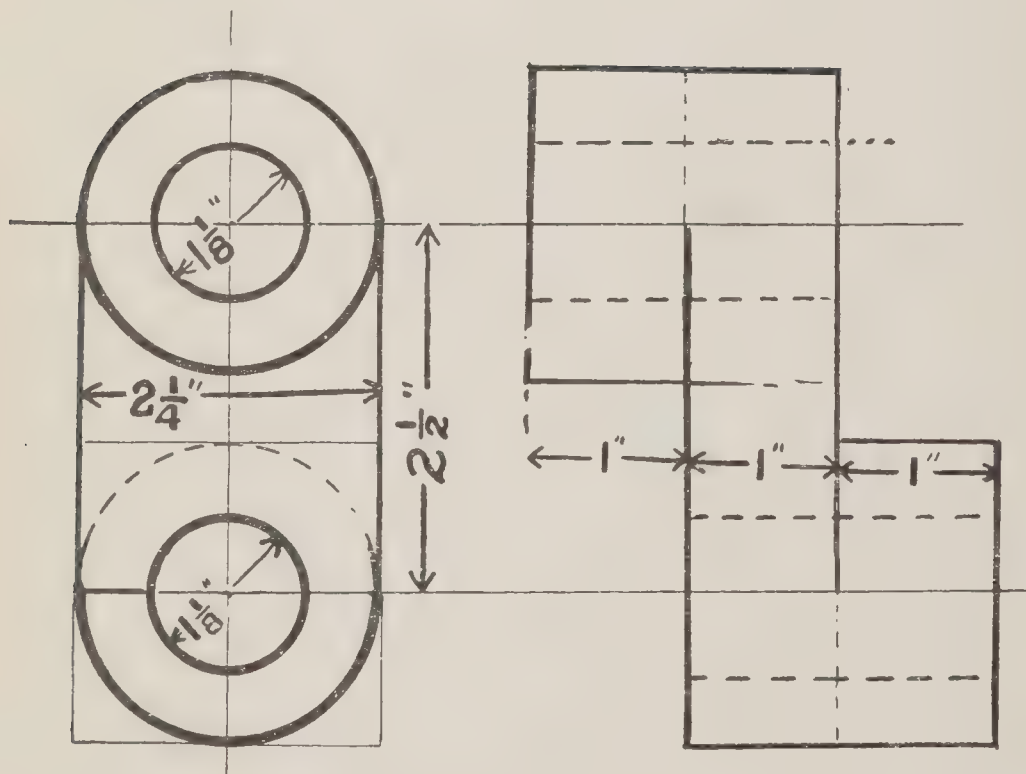
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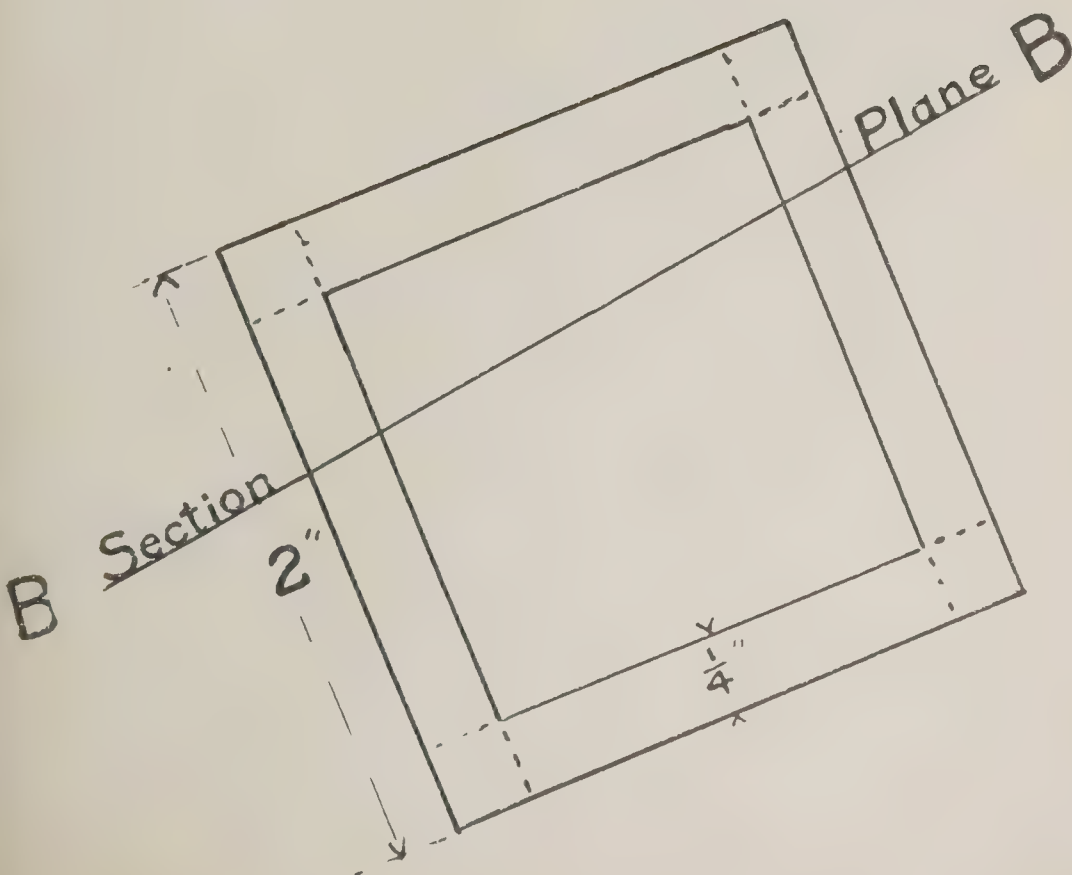
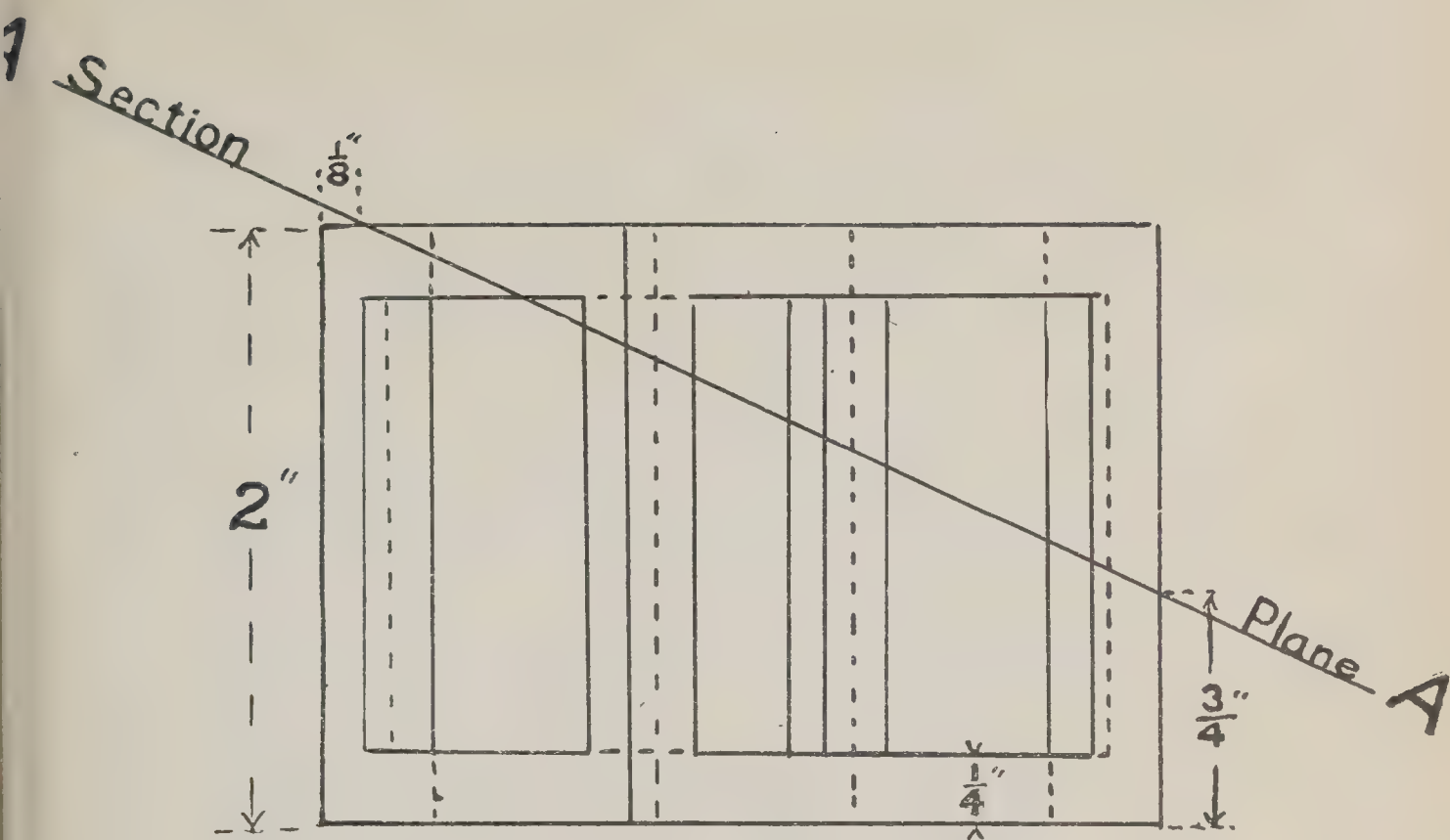
ART SPECIALIST.

GEOMETRICAL AND MECHANICAL
DRAWING.

Question. 1a



Question. 2



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ART SPECIALIST.

BLACKBOARD DRAWING.

NOTE.— *Candidates will answer question 1 and any two others, one of which must be drawn in coloured crayons.*

1. Make a drawing (about 24" × 30") of the group of objects presented.

2. Illustrate *one* of the following :—

(a) A group of children blowing bubbles.

(b) A maid milking a cow.

(c) A hunting scene.

3. Illustrate the following passage :—

Under a spreading chestnut tree

The village smithy stands ;

The smith, a mighty man is he,

With large and sinewy hands ;

.

4. Make a sketch, from memory, of a tulip, a narcissus, or a jonquil. Represent the plant in bloom and growing in a flower-pot.

5. Sketch *one* of the following :—

(a) A rowboat.

(b) A cat in action.

(c) A pentagonal vase.

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ART SPECIALIST.

HISTORY OF ART.

NOTE.—*An option is allowed between parts (a) and (b) of question 4, and between parts (a) and (b) of question 5.*

1. Write short articles on the following, pointing out their salient characteristics, and assigning them to their respective periods and architectural classes:—the Basilica of Santa Maria Maggiore (Rome); the Church of St. Sophia (Constantinople); the Chapel of Henry VII (Westminster Abbey); St. Peter's (Rome).

2. "Donatello was one, with Brunelleschi and Ghiberti, of the famous trio who, at the beginning of the fourteenth century, initiated a new era of art and genius in Italy."

Explain this statement, mentioning the work of each of the artists named, and enlarging on that of Donatello.

3. In what respects does the sculpture of Barye reflect characteristics of the nineteenth century?

4. (a) Write descriptive notes on the Apollo Belvedere, the Laokoon, and the Toro Farnese; *or*

(b) Give an account of Michelangelo's decorations of the ceiling of the Sistine Chapel.

5. (a) Give the impressions you may have gathered from the work of Claude le Lorrain; *or*

(b) Sketch his life.

6. What are the chief characteristics of the paintings of Rembrandt, Puvis de Chavannes, and Whistler?

7. Explain what is usually meant by the terms "impressionism", "atmosphere", and "values".

8. What is the *pointilliste* method of painting? Mention one of its best representatives, and give a short account of him.

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ANNUAL EXAMINATIONS, 1910.

KINDERGARTEN ASSISTANTS.

SONGS, GAMES, AND STORIES.

1. Using the songs of "The Two Gates" and "The Little Gardener" as types, explain Froebel's method of developing the child's love of nature, and his knowledge of the habits of animal and of plant life.

2. (a) What is the source of the attraction to children in Froebel's Trade songs?

(b) Explain the educational value of the song of "The Carpenter."

3. Describe briefly any Kindergarten games used to develop each of the following (one game in each case) :—

(a) The expression of physical activity.

(b) Visual discrimination.

(c) Sympathy with nature.

(d) The social instinct.

4. Describe a ball game emphasizing any one of the following points :— (a) activity, (b) symbolic play, (c) colour discrimination.

5. State fully what you consider the essential points in a story to be selected for the Kindergarten. Give reasons.

6. (a) State the main features of stories that are suitable for the Kindergarten and sketch very briefly one well-known story of this character.

(b) Name some elements in a story that would render it unsuitable for use in the Kindergarten. Illustrate, where possible, by stories containing these elements.

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ANNUAL EXAMINATIONS, 1910.

KINDERGARTEN ASSISTANTS.

METHODS.

1. "Seek ye first the kingdom of God and his righteousness, and all these things shall be added unto you."

(a) When and how did Froebel become acquainted with this thought?

(b) What effect did this idea have on his later life and work?

2. Froebel says, "I carry my own world within me. This it is which I must care for and cherish."

(a) Discuss this quotation, and show the influence of this thought in Froebel's educational laws.

(b) How did he embody this thought in the Kindergarten, and what results did he look for?

3. Develop a typical play with the second gift under the following heads:—

(a) The fundamental law.

(b) Its application in this gift.

(c) The aim of the play.

(d) The introduction and development of the play.

(e) The results to be obtained.

4. (a) Do you think it important that children four years of age should be given paper folding? Give reasons for or against.

(b) Do you think it wise or necessary to repeat any one form more than once? Defend your statement.

(c) What has been your experience as to the holding of the child's interest through paper folding?

(d) What preparation would you think it necessary to make in order to give a good lesson?

5. (a) Discuss the historical value of mat weaving.

(b) In the preparation of material for a class, what consideration should be given to colour and number combinations?

(c) Write out the formulae for a sequence of six mats for a senior grade.

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ANNUAL EXAMINATIONS, 1910.

KINDERGARTEN ASSISTANTS.

THEORY AND PRACTICE OF THE GIFTS.

1. "The spirit in which a play is conceived and originated, as well as the spirit in which the plaything is treated and the play played, give to the play its significance and its worth."—*Froebel*.

Bearing this in mind, suggest five general rules to guide the Kindergartner in her Gift Plays.

2. Give six reasons for the choice of the Ball as the First Gift.

3. (a) What different kinds of sequence would you use in your Gift Plays?

(b) What is the educational value of each type?

4. Trace the development of the idea of interdependence through the Building Gifts.

5. Give an original number exercise in the Seventh Gift (Triangular Tablet).

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KINDERGARTEN ASSISTANTS.

THEORY AND PRACTICE OF THE OCCUPATIONS.

1. Explain how the Occupations assist the Gifts in the development of the child's powers.

2. "The chief point in the Occupations is to cultivate a sense of beauty, and to open the soul for artistic labours and enjoyments."

Show how the various Occupations may be made a means of verifying this statement.

3. "The love of drawing shows itself in many forms."

(a) Describe some of these forms and show how the materials of the Kindergarten give an outlet for this variety in expression; also state their value as aids to drawing.

(b) Describe briefly the kinds of drawing you have observed in use in the Kindergarten.

(c) What advantages, and what objections can you present in regard to the different methods followed?

4. (a) Give your views of any two of the following Occupations:—Sandwork, Modelling, Colouring.

(b) State, with reasons, when you think they might advantageously be given to children, and show how you would conduct the first three exercises in one of the two selected.

5. Which of all the Occupations used, did you find most helpful as a means of self-development? Give reasons.

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SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS, GRADE A.

HISTORY OF EDUCATION.

1. (a) Compare the views of Plato and Aristotle as to the aim of Education.

(b) Show how these views respectively influenced their conceptions of Educational Method.

(c) What were their permanent contributions to the historical development of Education?

2. "Under Christianity religion was dissociated from politics."

(a) Point out clearly the effect of this dissociation upon the educational ideals of the early Christians.

(b) Outline briefly the organization and curricula of the early Christian schools.

3. Write a concise paper on the Port Royal Schools under the following heads:—

(a) Aim;

(b) Organization;

(c) Curriculum;

(d) Methods of Instruction;

(e) Influence.

4. (a) What were the essential features of the disciplinary conception of Education?

(b) To what did this conception owe its origin?

(c) What were its defects?

(d) Characterize the efforts of any one of its advocates.

5. "The dominant characteristics of the modern scientific tendency in education were the same as those of the sense-realistic tendency of the Seventeenth Century."

(a) Outline concisely these dominant characteristics.

(b) What conditions and forces gave unprecedented importance to this tendency from the opening of the Nineteenth Century?

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SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS, GRADE A.

LITERATURE.

1. Discuss the suitability of the myth, the fairy tale, the fable, and the nature story, as materials for primary literature. Illustrate your discussion by specific examples.

2. In drawing up your plan for a literature lesson on a poem, discuss briefly your purpose in:—

- (a) The preparation of the class ;
- (b) The reading of the poem ;
- (c) The analysis into main and subordinate thoughts ;
- (d) The meaning of words and phrases ;
- (e) The realization of imagery ;
- (f) Treatment of historical and geographical allusions ;
- (g) Recapitulation of its parts.

3. (a) Contrast your method of dealing with longer works in supplementary reading with your method of dealing with shorter selections.

(b) Explain some of the ways of interesting children in the better classes of books.

(c) Give a list of the six most suitable books you know of for supplementary reading for Fourth Form pupils, stating what you hope to accomplish by their use.

4. Outline a lesson plan for a Form II class on the following:—

At evening when I go to bed,
I see the stars shine overhead ;
They are the little daisies white
That dot the meadow of the night.

And often while I'm dreaming so,
Across the sky the moon will go ;
It is a lady, sweet and fair,
Who comes to gather daisies there.

For, when at morning I arise,
There's not a star left in the skies ;
She's picked them all and dropped them down
Into the meadows of the town.

[OVER]

5.

Weary of myself, and sick of asking
What I am, and what I ought to be,
At this vessel's prow I stand, which bears me
Forwards, forwards, o'er the starlit sea.

And a look of passionate desire
O'er the sea and to the stars I send :
"Ye who from my childhood up have calm'd me,
Calm me, ah, compose me to the end !"

"Ah, once more," I cried, "ye stars, ye waters,
On my heart your mighty charm renew ;
Still, still let me, as I gaze upon you,
Feel my soul becoming vast like you !"

From the intense, clear, star-sown vault of heaven,
Over the lit sea's unquiet way,
In the rustling night-air came the answer :
"Would'st thou *be* as these are ? *Live* as they.

"Unaffrighted by the silence round them,
Undisturbed by the sights they see,
These demand not that the things without them
Yield them love, amusement, sympathy.

"And with joy the stars perform their shining,
And the sea its long moon-silver'd roll ;
For self-poised they live, nor pine with noting
All the fever of some differing soul.

"Bounded by themselves, and unregardful
In what state God's other works may be,
In their own tasks all their powers pouring,
These attain the mighty life you see."

O air-born voice ! long since, severely clear,
A cry like thine in mine own heart I hear :

"Resolve to be thyself ; and know that he,
Who finds himself, loses his misery !"

(a) Suggest a suitable title.

(b) Give concisely in prose the meaning of the poem.

(c) Give at least six questions on what you think the most important points in the development of the meaning.

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SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS, GRADE A.

ARITHMETIC.

1. State and briefly explain the various steps involved in the development of the number idea.

2, (a) "The best plan for teaching elementary number is through the use of objects."

What principles should guide you in using objects for this purpose?

(b) How would you teach the number "six"? What facts would you teach?

3. Your class knows "Short Division," and you wish to proceed to "Long Division."

Choosing $6876 \div 19$ as an example, and introducing any preliminary matter you deem necessary, indicate your method of procedure.

4. (a) Outline a first lesson in Multiplication of Decimals.

(b) Show to what extent you have used Induction and Deduction in your lesson as outlined.

(c) Give a short seat-work exercise to follow the lesson.

5. Solve as you would for your pupils:—

(a) I buy 500 bbls. of apples at \$1.50 a bbl., and ship them to Liverpool, where they are sold by an agent at 17s. 6d. per bbl. on a commission of two per cent. He remits the net proceeds to me by a bill of exchange purchased when Sterling exchange is at $9\frac{1}{4}$ premium. What is my gain on the transaction?

(b) A baker's outlay for flour is 70% of his gross receipts, and other trade expenses are 20%. If the price of flour falls 40%, and other trade expenses are also reduced 40%, what reduction should be made in the price of a 5 cent loaf to allow the same percentage of profit as before?

(c) If a metal bar 4 ft. 7 in. long, 5 in. wide, 2 in. thick, be coined into coins $1\frac{1}{4}$ in. in diameter and $\frac{1}{8}$ in. thick, find the number of coins.

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MARCH, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS, GRADE A.

NATURE STUDY AND SCIENCE.

1. (a) What are the chief factors which would guide you in choosing suitable subject matter for Nature Study in your school? Explain fully.

(b) "In a course of study the method of treatment rather than the subject matter is adaptable to the grades."
Explain and illustrate.

2. "The child is first interested in the whole plant, the whole insect, or the whole bird, as a living, growing, object."

Discuss this statement, and illustrate your meaning by showing how you would teach a lesson on any *one* of the following:—

(a) The Wheat Plant.

(b) The Cabbage Butterfly.

(c) The Robin.

3. (a) "While the purposes of the school garden may differ in different schools, its value in education is rarely questioned."
Discuss this under the following headings:—

(i) The main purpose of the school garden.

(ii) How purposes might differ in different schools.

(b) Give directions for the making of a school garden in connection with a rural school, and draw a plan showing a common ornamented flower plot and thirty-two individual plots.

4. You propose to take up with a Public School class the germination of seeds:—

(a) What seeds would you select?

(b) Taking a typical example, what facts would you teach?

(c) How would you conduct the germination?

(d) Name three experiments you would perform to illustrate the conditions favouring the germination of seeds.

5. Give the outline of a lesson on convection of heat, and indicate how you would lead the pupils to apply the principle for any practical purposes.

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SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS, GRADE A.

SCIENCE OF EDUCATION.

1. Write a concise paper on each of the following :—

- (a) The development of acquired from the instinctive interests.
- (b) The relation of interest to effort.
- (c) The interests of (i) a child of five years old, (ii) a child of ten years old, (iii) a child of fifteen years old.

2. School studies are described as “typical forms of experience that the race has found valuable in meeting its needs”. Briefly explain this statement in its application to Manual Training, Nature Study, Literature, Grammar.

3. (a) Explain and illustrate what is meant by the principle of apperception.

(b) What are the necessary conditions of the application of this principle in teaching.?

(c) Show how you would apply this principle in teaching a lesson on each of the following :—

- (i) The Subjunctive Mood.
- (ii) The Division of Fractions.
- (iii) The Climate of British Columbia.

4. (a) State in detail the various processes and conditions that underlie acts of memory.

(b) Which of these in the case of school children are subject in large measure to the control of the teacher?

(c) Specify somewhat fully the measures you would adopt to ensure that your pupils would be likely to remember class instruction, illustrating your answer by reference to different subjects and topics.

5. Distinguish the Development Lesson from the Review Lesson as to (a) purpose, (b) matter, (c) method. Give illustrations from Arithmetic, History, Geography, Reading.

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SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS, GRADE A.

LANGUAGE AND COMPOSITION.

1. "The important aim of education is just the power of overcoming the temptations of mere personal interest, the power to serve purposes which demand effort of will and discipline of attention."—Munsterberg.

(a) Show how you must employ the "temptations of mere personal interest" in the composition work of Junior classes.

(b) How would you combine the personal interest with the demand for effort of will and discipline of attention in essay-writing?

2. (a) What importance do you attach to oral language training? Show, with some detail, the nature of the oral work you propose for Second, Third, and Fourth Book Classes respectively.

(b) Write a plan for an oral composition lesson on a picture which represents a school-house in the distance, and two boys in the foreground, one with his school satchel, and the other with a fishing-rod.

3. What class-work would be preparatory to writing an essay on "The Uses of Snow"?

4. (a) What principles should govern the criticism of oral work in composition?

(b) Show how you would combine effectiveness of criticism of written work with economy of the teacher's time and energy.

5. Write an essay of about sixty lines on *one* of the following topics:—

(a) A Canadian Navy.

(b) A Winter Scene.

(c) The Parliamentary Elections in Great Britain and Ireland.

(d) The Silent Sympathy of Nature.

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SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS, GRADE A.

ALGEBRA AND GEOMETRY.

1. "The radical mistake of Algebraical teaching for many generations was in passing by a jump from particular Arithmetic to purely Symbolical Algebra."

Give a brief outline of the method you would adopt in introducing Algebra to make the transition mentioned less abrupt.

2. Explain your method of teaching division when the divisor contains at least two terms, and the dividend more than two. Show how the division of one Algebraic expression by another resembles and differs from the division of Arithmetical numbers.

3. (a) What related exercises should precede the solution of $ax^2 + bx + c = 0$?

(b) Give your solution for this equation.

(c) Use your result to write out the values of x which will satisfy the equation $x^2 - 100x + 2499 = 0$.

4. Illustrate the inductive and deductive methods of teaching Geometry by referring to the following theorem:—

The angles at the base of an isosceles triangle are equal.

5. You wish a class of beginners to find out that two triangles are equal in all respects if the three sides of the one are respectively equal to the three sides of the other. Write a plan of the lesson you would teach.

6. How would you teach a class to construct an inscribed circle within a triangle whose sides are 1 in. $1\frac{3}{4}$ in., and $2\frac{1}{4}$ in. long?

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SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS, GRADE A.

GEOGRAPHY.

1. "The type-study bridges the chasm between the particular and the general."

Show how this applies to the teaching of geography, and illustrate by giving a brief outline of such a study of any well known river in Canada.

2. Suggest six subjects for a series of geography lessons, based on the Nature Study method, for a Senior First Class during the Spring term (a) in a rural school, (b) in an urban school.

Show how you would develop any one of these subjects.

3. Write concise notes on a simple lesson in local geography for a Form II, to give correct notions of "distributing and collecting centres." Then outline a lesson for a Form III, applying the previous knowledge to the study of Winnipeg as such a centre.

4. Suggest simple observations or experiments which may be used in illustrating the following :—

- (a) Sedimentary deposits in lakes and seas ;
- (b) The formation of clouds ;
- (c) The destruction of rocks by weathering ;
- (d) The formation of lake beds ;
- (e) The origin of land and sea breezes.

5. Give, in order of treatment, the topics you would discuss with a Fourth Class in dealing with the Geography of France.

Give reasons for your selection.

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SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS, GRADE A.

SCHOOL ORGANIZATION AND MANAGEMENT.

1. (a) State (i) an educational aim that you regard as most worthy, held by a teacher, M.; (ii) one that you regard as distinctly inferior, held by a teacher, N.

(b) Contrast the management of M.'s and N.'s schools, and show how differences in the management are related to differences in the aims.

2. Sketch a model plan for a rural school house and grounds, for forty pupils, showing (a) the size of buildings and grounds, (b) the location of building, well, trees, closets, school garden, (c) the position and size of windows and blackboards in school room.

3. (a) Discuss concisely the advantages and the disadvantages of "individual" and "class" instruction.

(b) How will you attempt to solve the problem of "slow" pupils?

4. Write a concise paper on each of the following :—

(a) Home lessons, (i) their object, (ii) directions for minimizing the evils charged against them.

(b) The importance of fire-drill, and the method of conducting it.

(c) Gymnastics and games as an intellectual and moral influence in the school.

5. "You eliminate the feelings of personal resentment and the sense of injustice if you make the punishment, wherever possible, obviously appropriate to the fault, and logically its sequel."

Elaborate this idea by giving varied examples to illustrate its application in school government.

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MARCH, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS, GRADE A.

GRAMMAR.

1. "The relations among the larger elements of sentence structure should be taken up before the study of the single words."

(a) Discuss the correctness of this view.

(b) State definitely what elements of the sentence you would take up before making a study of the parts of speech.

2. (a) Show how you would lead up to, work out, and fix the definition of an adjective.

(b) State the definition as you would ultimately formulate it.

(c) What further facts concerning adjectives would you subsequently work out in a similar way?

4. In teaching Inflection as it appears in English, at what stage would you introduce the subject, what instances would you use, and how would you proceed in reaching your general conclusions? State these conclusions.

4. (a) Outline a course of lessons on verb phrases suitable for an Entrance class.

(b) Classify the verb phrases in the following :—

(i) I resolved that I would not seek any other shelter, and if he did not think fit to deliver me, still I was in his hands, and it was meet he should do with me as should seem good to him.

(ii) His charity would have left the wounded Christian to be tended in the house where he was residing, with an assurance that all expenses should be duly discharged.

5. "His feeble and uncultivated mind was *incapable of perceiving* that the riches of Calcutta, had they been *even greater than* he imagined, *would* not compensate him for what he *must* lose, if the European trade, *of* which Bengal was a chief seat, *should be driven* by his violence to some other quarter."

(a) Select the clauses in the above, and state their relation and kind.

(b) Parse the words in italics.

Department of Education, Ontario.

MARCH, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS, GRADE A.

HISTORY.

1. Discuss the correlation of History with (a) Art, (b) Manual Training, (c) Geography.
2. (a) Explain the Topical method of teaching History.
(b) Compare, in this connection, the value of *events* and *persons* as topics.
(c) Outline a lesson by this method on the U. E. Loyalists or the Act of Union (1840).
3. (a) What method would you use in teaching the duties and responsibilities of citizenship?
(b) Give a series of topics in Civics suitable for each of the Public School Forms.
(c) Outline the matter of one of these topics.
4. Show the method you would adopt in teaching a lesson on the Magna Charta to a Form IV Class, to bring out its application to the liberties we enjoy.
5. Write notes on :—
 - (a) La Salle ;
 - (b) The Jacobites ;
 - (c) A County Council ;
 - (d) The Hudson Bay Company.

Department of Education, Ontario.

JUNE, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS.

GEOGRAPHY.

1. Show how you would apply the deductive development method —

- (a) In teaching the climate of British Columbia and of Alberta; *or*
- (b) In proving that the axis of the earth must be inclined at some angle to the plane of its orbit rather than lying in it or being at right angles to it.

2. Describe the experiments you would have your class perform, and state what observations you would have them make, preliminary to a series of lessons on the moisture in the air.

3. Give a brief outline of the matter you would use and the method you would follow in teaching lessons on any *two* of the following to a Third Form class:—

- (a) The water-powers of Ontario.
- (b) Petroleum and its products.
- (c) Lumbering industry of Quebec.
- (d) Fishing industry of Nova Scotia.

4. Write a paper on the cause of the location and prosperity of the cities of Montreal, Winnipeg, Edmonton, Vancouver, New York.

5. Give in order of treatment the topics you would discuss in dealing with the geography of Japan, with a Fourth Form class. Give reasons for your selection.

Department of Education, Ontario.

JUNE, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS.

ARITHMETIC.

1. What are the chief causes which contribute to lack of neatness, accuracy, and rapidity in computation? Give some practical suggestions for remedying defects of this character.

2. Divide the teaching of short division into topics, or steps, and indicate your method of teaching each in its order.

3. Using, by way of illustration, $\frac{5}{6} \div \frac{2}{3}$, outline the plan for a lesson on the division of one fraction by another.

4. You are teaching area :—

(a) How would you endeavour to lead pupils to avoid such a solution as “4 inches by 7 inches equals 28 square inches”?

(b) How would you develop the rule for finding the area of a circle?

5. Solve as you would for your pupils :—

(a) On December 31st, 1907, 1908, 1909, I deposit \$25.00 in the Post Office Savings Bank. The Bank pays 3% per annum, compounded yearly. How much is there to my credit on January 1st, 1911?

(b) What sum of money invested in a 5% stock at 115 will give a net income of \$1779 after paying an income tax of 15 mills on the dollar on all over \$400?

(c) The walls for the cellar of a house 50 feet long and 30 feet wide, are 16 inches thick and made of concrete which consists of 1 part cement to 8 parts gravel. Estimate the cost of material when cement is \$1.80 a barrel and gravel is 80 cents a load, if a load of gravel measures 1 cubic foot and a barrel of cement weighs 400 pounds, and a cubic foot of cement weighs 150 pounds.

Department of Education, Ontario.

JUNE, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS.

GRAMMAR.

1. What is meant by saying that the inductive-deductive method is suitable for teaching grammar? Illustrate your answer by notes on the teaching of a lesson on the conjunctive pronoun.

2. (a) Write ten sentences containing examples which you would use in teaching the classifications of conjunctions into co-ordinate and sub-ordinate, and give typical questions you would propose in leading pupils to make the necessary distinctions.

(b) Arrange the conjunctions used in the ten examples in their respective classes.

(c) What definitions of conjunction, co-ordinate conjunction, and sub-ordinate conjunction would you accept?

3. Fill the following blanks with the proper form, giving reasons for your selections:—

(a) *Who or whom.*

- (i) He was one ——— everybody thought would be willing to go.
- (ii) Here is a man ——— they all declare truthful.
- (iii) They found the child ——— they thought had been lost.
- (iv) I met a woman, ——— I was afterwards told was your sister.

(b) *Shall or will.*

- (i) I ——— see that you get it.
- (ii) He ——— go, if I have anything to say about it.
- (iii) Blessed are the meek ; for they ——— inherit the earth.

(c) *Should or would.*

- (i) I ——— say that he is deceived.
- (ii) They told him that he ——— have to do it.
- (iii) You ——— write more plainly.

4. Give the exact grammatical values and relationships of the sub-ordinate clauses and of the italicized words in the following :—

“They were in imminent danger *themselves*, and if *so*, as from the *whispering* and exertions *to push on* with the cart was much *to be apprehended*, there was little *doubt* that I should be left behind as a useless *encumbrance*, and *that* while I was in a condition which rendered every chance of escape *impracticable*. [OVER]

5. (a) Describe your treatment of examples of false syntax, and name the precautions you would take to prevent any injurious effects upon the language of the pupils.

(b) Explain how you would try to prevent pupils from making the following errors :—

- (i) Calling “has been broken” an intransitive verb in the sentence “The window has been broken by me.”
- (ii) Calling “has written” past perfect tense.
- (iii) Using “done” for “did” ; “seen” for “saw”, etc.

Department of Education, Ontario.

JUNE, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS.

ALGEBRA AND GEOMETRY.

1. Outline a lesson on positive and negative quantities.
2. Show how you would lead a class to factor any *two* of the following :—
 - (a) $x^4 + x^2y^2 + y^4$.
 - (b) $x^3 + y^3 + z^3 - 3xyz$.
 - (c) $x^2 + y^2 - c^2 - d^2 + 2xy + 2cd$.
3. Solve, as you would for your pupils, the following problem :—

A man gave each of a number of boys 4 cents and had 16 cents left. He found that if he had 12 cents more he could have given each boy 6 cents. How much money had he ?
4. Illustrate by reference to the proof of a familiar theorem the method of superposition in geometry.
5. Explain your method of teaching a class how to construct a triangle having its sides of given lengths ; in this connection tell how you would lead pupils to see that any two sides must be greater than the third.
6. I observe the elevation of the top of a chimney from a certain point and find it 20° ; I walk straight toward the chimney a distance of 50 yards, and then find the elevation of the top 30° . Find the height of the chimney. Use scale of $\frac{1}{4}$ inch to 5 yards.

Department of Education, Ontario.

JUNE, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS.

LITERATURE.

1. What considerations should guide in the selection of literature for (a) a Form I class, (b) a Form III class ?

2. Write a concise note on :—

(a) The relation of oral reading to the teaching of literature ;

(b) The inter-relation of nature study, history, and literature, as Public School subjects of study.

3. State some of the methods you would adopt for bringing a class into the proper mood for the study of a poem. Illustrate by reference to varied selections.

4. Sweet and low, sweet and low,
 Wind of the western sea,
Low, low, breathe and blow,
 Wind of the western sea !
Over the rolling waters go,
Come from the dying moon, and blow,
 Blow him again to me ;
While my little one, while my pretty one, sleeps.

Sleep and rest, sleep and rest,
 Father will come to thee soon ;
Rest, rest, on mother's breast,
 Father will come to thee soon ;
Father will come to his babe in the nest,
Silver sails all out of the west
 Under the silver moon :
Sleep, my little one, sleep, my pretty one, sleep.

(a) To what form would you teach this poem ? Give reasons for your answer.

(b) Give a concise plan of your lesson.

[OVER]

5.

One feast, *of holy days the crest*,
I, though no Churchman, love to keep,
All-Saints,—the unknown good that rest
In God's still memory folded deep ;
The bravely dumb that did their deed,
And *scorned to blot it with a name*,
Men of the plain heroic breed,
That loved *Heaven's silence* more than fame.

Such lived not in the past alone,
But *thread to-day the unheeding street*,
And stairs to Sin and Famine known
Sing with the welcome of their feet ;
The den they enter grows a shrine,
The *grimy sash an oriel burns*,
Their cup of water warms like wine,
Their speech is filled from heavenly urns.

About their brows to me appears
An aureole traced in tenderest light,
The *rainbow-gleam of smiles through tears*
In dying eyes, by them made bright,
Of souls that shivered on the edge
Of that chill ford repassed no more,
And in their memory *felt the pledge*
And *sweetness of the farther shore*.

- (a) Suggest a suitable title for the poem.
- (b) Trace concisely the sequence of thought in the stanzas.
- (c) Explain the expressions in italics.

Department of Education, Ontario.

JUNE, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS.

NATURE STUDY AND SCIENCE.

1. (a) Describe how you would make and care for an aquarium, and explain fully what use you would make of it in connection with the nature study work in your school.

(b) Arrange for a Second Form class a series of five problems on any *one* of the following aquarium specimens :—crayfish, tadpole, fish.

(c) State briefly what the pupils should discover by means of each problem.

2. Make out a series of winter nature study lessons suitable for a First Form class in a rural school.

3. Give the outline for a lesson for a Third Form class on one of the following birds :— downy woodpecker, song sparrow, bluebird, crow, chickadee.

4. (a) Give reasons why children should be interested in forest trees. Describe in detail your plans for developing this interest.

(b) Show how you would correlate the study of elementary forestry with other school subjects.

5. Outline for a Fourth Form class an experimental lesson on the radiation of heat. To what practical applications would you make reference? Show the relation of this lesson to geography.

Department of Education, Ontario.

JUNE, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS.

HISTORY.

1. "The growth of institutional life is the standard by which we determine what events possess historical value."

Explain this statement and discuss its correctness.

2. Select an incident from the life *either* of Moses *or* of David that would be suitable for a First Form class, and then select an incident from the same life that would be suitable for a Second Form class. Give reasons for your selection.

3. Outline a lesson for a Third Form class on *one* of the following:—Magellan, Columbus, Champlain.

4. Give a lesson plan under the heads of matter and method for teaching *one* of the following topics to a Fourth Form class:—

- (a) The Armada.
- (b) The Puritans.
- (c) The Habeas Corpus Act.

5. Describe some of the effects on the British Empire to-day of:—

- (a) The Norman Conquest ;
- (b) The spirit of maritime adventure in the time of Elizabeth ;
- (c) The Canadian Confederation.

Department of Education, Ontario.

JUNE, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS.

LANGUAGE AND COMPOSITION.

1. (a) State the chief objects of the teaching of the mother-tongue in Public Schools.

(b) What do you conceive to be the main objects of language-training during the child's first two years at school?

Show how you hope to realize these objects.

2. You have spent an afternoon with your pupils (Second, Third, and Fourth Form classes) in nature study field-work in early May. Outline for each grade a composition exercise to be based on the observations made on the trip.

3. Describe how you would teach paragraphing; give notes of any one lesson.

4. (a) What must you keep in mind in selecting a passage as a model in composition? Explain your method of treatment of the model.

(b) What are the advantages and the dangers of giving your class the task of transcription of paragraphs and stanzas from celebrated authors?

5. Write an essay, about thirty-five lines in length, on *one* of the following:—

(a) Halley's Comet.

(b) A Morning in Spring.

(c) Hobbies.

(d) The Conservation of Canada's Natural Resources.

Department of Education, Ontario.

JUNE, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS.

SCIENCE OF EDUCATION.

1. (a) Explain the nature of instinct.

(b) Illustrate by definite references the value to a teacher of a knowledge of the facts concerning the nature and development of the instincts of children.

(c) Show the relation of imitation (i) to interest, (ii) to habit, (iii) to volition. Deduce educational principles.

2. Write a short paper on perception, under the following heads:—

(a) The nature of perception.

(b) The function of perception as forming the basis of thought.

(c) The development of perception.

(d) The limitations of objective teaching.

3. “The development of will is intimately involved in the fixing and attainment of an aim in each recitation.”

(a) Give in order the factors involved in a volitional act.

(b) Show from your answer the significance of McMurry's statement quoted above. Illustrate.

4. State clearly the difference between the inductive and deductive method of arriving at knowledge. Point out the chief source of error in applying each of these methods. Show how these methods are inter-related and combined in the teaching of arithmetic.

5. What are the various purposes to be served by questioning? Enumerate the chief points to be kept in mind in preparing and presenting questions and in dealing with answers.

Department of Education, Ontario.

JUNE, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS.

HISTORY OF EDUCATION.

1. (a) Describe concisely the educational ideal of the early Romans.
(b) Indicate the relation of this ideal to their educational practice.
(c) Trace the influence of Greek culture on later Roman education.
2. (a) Contrast the history of the Renaissance movement in Italy and in Teutonic countries.
(b) How do you account for the divergence in the character of the two movements?
(c) Give a brief account of the work of one Renaissance educator in Italy, and one in Germany.
3. "Comenius is one of the most important representatives of the realistic movement as well as one of the leading characters in the history of education."
(a) Describe the "realistic movement" and the relation of Comenius to it.
(b) Give reasons for regarding Comenius as "one of the leading characters in the history of education".
4. (a) State concisely the real importance of Pestalozzi's work in education.
(b) Outline the aim of education as formulated by Froebel in the Kindergarten.
5. (a) What is meant by the sociological tendency in education?
(b) How has it influenced the organization of schools?
(c) In what respects may it be said to coincide (i) with the psychological, and (ii) with the scientific tendency?

Department of Education, Ontario.

JUNE, 1910.

SECOND CLASS PROFESSIONAL EXAMINATION.

NORMAL SCHOOLS.

SCHOOL ORGANIZATION AND MANAGEMENT.

1. (a) Discuss the advantages and disadvantages of graded and ungraded schools.

(b) In what ways may the disadvantages of each be minimized?

2. A teacher in a graded school has a Junior Third and a Senior Third class in the same room. Make a suitable daily programme, showing both recitation and seat work.

Give reasons for your order of procedure.

3. Explain how you would provide, at comparatively small cost, for the proper heating and ventilating of a rural school without basement.

4. (a) Give the advantages and disadvantages, (i) to the teacher, (ii) to the pupil, of regular written examinations.

(b) Describe your method of conducting written tests and examinations.

5. (a) "All government must be self-government."

Discuss the mechanizing of routine in the school in the light of this statement.

(b) Explain clearly how the following exercises should be carried out :—

(i) The calling in of pupils on the opening of school in the morning ;

(ii) The disposal of caps and wraps ;

(iii) The distribution of material.

6. What are some of the reasons for untruthfulness among school children ?

State how you would deal with some typical cases.

Department of Education, Ontario.

December Examinations, 1910.

MODEL SCHOOLS.

SCHOOL ORGANIZATION AND MANAGEMENT.

1. Briefly outline your procedure during the first day at school.

2. (a) What principles should guide you in drawing up a time-table for an ungraded school?

(b) Show a complete day's work for a Junior First Form in an ungraded school under the following heads: Time, Class work, Busy work.

(c) What amount of time would you assign to reading, writing, and arithmetic, respectively in Form III, and Form IV?

3. (a) What are the aims of discipline?

(b) What standard of discipline do you expect to maintain in your school?

(c) Discuss fully the means by which you will seek to secure such standard.

4. (a) State the purposes of imposing penalties.

(b) What are the benefits of having pupils see the logical connection between the offence and the penalty? Illustrate this principle by examples.

5. Discuss the following points in connection with the physical education of children:—

(a) Fatigue, its cause, and methods of prevention.

(b) Physical exercise within the school-room.

(c) The teacher and the pupils on the play-ground.

Department of Education, Ontario.

December Examinations, 1910.

MODEL SCHOOLS.

HISTORY.

1. (a) What use would you make of geography in teaching history? Illustrate by notes on the teaching of the main facts in the campaign of 1812.

(b) To what extent would you introduce history in teaching geography? Illustrate by notes on a geography lesson on the St. Lawrence River.

2. Write the story of David, *or* of Abraham and Isaac, as you would tell it to a Form I class.

3. (a) Discuss the place of biography in the teaching of history.

(b) Tell the story of any important character in Canadian history, making your story suitable for a Form IV class. Show how the facts taught may be made a centre for additional lessons.

4. Indicate the matter, and detail your method of teaching the history of the North American Indians to a Form II class.

5. Write concise historical notes on any *two* of the following:—

(a) The Company of One Hundred Associates.

(b) Oliver Cromwell.

(c) The Seven Years' War.

Department of Education, Ontario.

December Examinations, 1910.

MODEL SCHOOLS.

PRINCIPLES OF EDUCATION.

1. Write notes on each of the following topics :—

- (a) The importance of self-effort in education.
- (b) The necessity for a definite aim in every lesson.
- (c) Means to be used in securing aim, and encouraging desire on the part of the pupils.

2. Explain in general terms how a subject of instruction may be made to have meaning for the pupils.

Illustrate your answer by topics selected from (a) History, (b) Nature Study.

3. Discuss attention under the following heads :—

- (a) The importance of securing attention.
- (b) Conditions of attention.
- (c) Some hindrances to attention.
- (d) Methods of securing and holding the attention of (i) Form I pupils ; (ii) Form IV pupils.

4. Illustrate the inductive method of teaching by means of the notes on the teaching of a selected topic in (a) Geography, (b) Arithmetic.

5. (a) Discuss the interdependence of impression and expression.

(a) What application would you make of this relation in teaching (i) a lesson on a stream near the school ; (ii) a reading lesson with a primary class ?

Department of Education, Ontario.

December Examinations, 1910.

MODEL SCHOOLS.

GRAMMAR.

1. (a) Discuss the place of definitions in the teaching of grammar.

(b) Illustrate your method of developing definitions by giving notes on some selected topic.

(c) What precautions would you take in regard to the formulation of definitions?

2. Describe your treatment of examples of false syntax. What precautions would you take to prevent results injurious to the language of the pupils?

3. Outline a lesson on *one* of the following:—

(a) The preposition.

(b) Case.

(c) The distinction between transitive and intransitive verbs.

4. *When* through life unblest we rove
Losing all that made life dear,
Should some notes we used *to love*
In days of boyhood *meet* our ear,
Oh *how welcome* breathes the strain !
Wakening thoughts *that* long have slept,
Kindling former smiles again
In fading eyes that long have wept.

(a) Indicate your questioning to lead a class to dispose correctly of the clauses of which the verbs are “rove” (line 1), and “breathes” (line 5).

(b) Show your questioning to lead a class to parse “unblest” (line 1), “dear” (line 2), and “kindling” (line 7).

(c) Write out all the clauses other than those indicated in question (a), and give the value and relation of each.

(d) Parse the italicized words.

Department of Education, Ontario.

December Examinations, 1910.

MODEL SCHOOLS.

ARITHMETIC.

1. Outline the different methods of teaching subtraction, and explain, using examples, the method you intend to follow. Give reasons for your choice.

2. (a) A class is ready to begin long multiplication. What work in multiplication should have preceded this?

(b) Show how you would use this preparatory work in teaching, to multiply 356 by 34.

3. State your plan of developing measure and multiple to prevent confusion in the use of the terms.

4. State concisely and clearly how you would lead pupils to discover a rule for finding the area of:—

(a) A rectangle.

(b) A triangle.

5. Solve, as you would for your pupils, the following;—

(a) A. deposited \$100 in a bank on Jan. 1st, 1909, and \$100 on Jan. 1st, 1910; if the bank allows 4% per annum, compounded half-yearly, find A's bank account on Jan. 1st, 1911.

(b) A merchant marked goods at \$3.00, which was a gain of 25%. He afterwards reduced his price 25% to a customer. Find his gain or loss per cent.

(c) If the radius of the wheel of an automobile be 1.75 ft., how many revolutions will the wheel make in going once around a circular track, the diameter of which is 896 yards?

Department of Education, Ontario.

December Examinations, 1910.

MODEL SCHOOLS.

LANGUAGE AND COMPOSITION.

1. (a) What benefits do you expect your pupils to gain from systematic language-training?

(b) Outline a course suitable for a Form I class.

2. Describe the kind of picture you would use as the basis of a language lesson, and outline your method of using it.

3. Outline your method of correcting written compositions with (a) a Form II class, (b) a Form IV class.

4. (a) Describe your method of teaching a friendly letter.

(b) Your friend, James True, is going to Winnipeg, and you wish him to meet another friend of yours, John Sterling. Write a letter which you will give to James True, introducing him to John Sterling.

5. Write an essay of about thirty lines on *one* of the following:—

(a) The playground as a means of education.

(b) An ideal day on the water.

(c) Hunting in the woods without a gun.

(d) The teacher makes the school.

Department of Education, Ontario.

December Examinations, 1910.

MODEL SCHOOLS.

LITERATURE.

1. What are the definite aims you will have in view in teaching literature in the Public Schools ?

2. (a) Describe your method of teaching literature in primary classes.

(b) Discuss the suitability of the fairy tale, the myth, the folk tale, and the nature story as materials for primary literature.

3. Show how you would prepare a suitable mood in the pupils for the proper appreciation of a piece of literature.

4. My bed is like a little boat ;
 Nurse helps me in when I 'embark ;
 She girds me in my sailor's coat
 And starts me in the dark.

At night, I go on board and say
 Good-night to all my friends on shore ;
I shut my eyes and sail away
 And see and hear no more.

And sometimes things to bed I take,
 As prudent sailors have to do ;
Perhaps a slice of wedding-cake,
 Perhaps a toy or two.

All night across the dark we steer ;
 But when the day returns at last,
Safe in my room, beside the pier,
 I find my vessel fast.

(a) For what class would you consider this a suitable selection for study ?

(b) Write a plan for teaching the poem.

[OVER]

5. I wandered lonely as a cloud
That floats on high o'er vales and hills,
When all at once I saw a crowd,
A host of golden daffodils ;
5 Beside the lake, beneath the trees,
Fluttering and dancing in the breeze.

- Continuous as the stars that shine
And twinkle on the milky way.
They stretched in never-ending line
10 Along the margin of the bay ;
Ten thousand saw I at a glance,
Tossing their heads in sprightly dance.

- The waves beside them danced ; but they
Outdid the sparkling waves in glee ;
15 A poet could not but be gay,
In such a jocund company ;
I gazed—and gazed—but little thought
What wealth the show to me had brought :

- For oft, when on my couch I lie
20 In vacant or in pensive mood,
They flash upon that inward eye
Which is the bliss of solitude ;
And then my heart with pleasure fills,
And dances with the daffodils.

(a) What is the main theme of the poem ?

(b) Explain (i) the comparison in lines 7 and 8 ; (ii) "milky way" line 8 ; (iii) "jocund company" line 16 ; (iv) "in vacant or in pensive mood" line 20 ; (v) "inward eye" line 21 ; (vi) "And dances with the daffodils" line 24.

(c) What "wealth" had the "show" brought to the poet ?

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MODEL SCHOOLS.

GEOGRAPHY.

1. Outline a course in geography suitable for a Form II class.
2. How would you teach pupils to use a map? Illustrate by reference to the map of Ontario.
3. In what order would you study the geography of North America? Give reasons for making your selection.
4. Describe, under the following heads, any geographical excursion you may have made:—
 - (a) The purpose of the excursion.
 - (b) The method of conducting the excursion.
 - (c) The observations made.
 - (d) The use made of the observations in subsequent work.
5. Show, by reference to the geography of Europe, the relations among climate, soil, natural products, and occupations of the people.

Department of Education, Ontario.

December Examinations, 1910.

MODEL SCHOOLS.

NATURE STUDY.

1. Give instances to show how nature study may be correlated with geography, literature, composition, and art.
2. Outline a course of nature study in a rural school for the month of September. Illustrate your method of treatment with the different Forms.
3. How would you conduct the study of early wild flowers? Would you encourage pupils to make collections of them? Give reasons for your answer.
4. Outline the summary of work you would expect your senior classes to do in studying the habits of the robin from spring to fall.
5. Show how you would proceed to get a Form III class to investigate the formation of dew.
6. (a) What are the advantages of a school garden?
(b) What garden work do you think should be done in the autumn months in a school where no such work has been attempted?

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